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**BadWing**

***Release 0.1.dev67***

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## CONTENTS:

<b>1 Installation</b>	<b>3</b>
1.1 From PyPI . . . . .	3
1.2 From GitHub . . . . .	3
<b>2 Quickstart</b>	<b>5</b>
2.1 Controls . . . . .	5
<b>3 Command Line Interface</b>	<b>7</b>
3.1 Commands . . . . .	7
<b>4 badwing</b>	<b>9</b>
4.1 badwing package . . . . .	9
<b>5 Indices and tables</b>	<b>29</b>
<b>Python Module Index</b>	<b>31</b>
<b>Index</b>	<b>33</b>



Skateboarder/Platformer/Lepidopterist Game using Arcade & Pymunk



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CHAPTER  
ONE

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## INSTALLATION

### 1.1 From PyPI

#### 1.1.1 TLDR - do this at your own risk

```
pip install badwing
```

#### 1.1.2 Recommended - pipX

If you don't already have it installed go to <https://pypi.org/project/pipx/> for instructions

```
pipx install badwing
```

#### 1.1.3 And then run it!

```
badwing run
```

### 1.2 From GitHub

Clone the repository

```
git clone https://github.com/kfields/badwing.git
```

Navigate to the new directory which contains the repository

```
cd badwing
```

Create a Python 3 virtual environment called *env*

```
python3 -m venv env
```

Activate the environment

```
source env/bin/activate
```

Install required packages

```
pip install -r requirements.txt
```

### 1.2.1 And then run the game!

```
python run_game.py
```

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**CHAPTER  
TWO**

---

**QUICKSTART**

## **2.1 Controls**

### **2.1.1 Movement**

WASD + cursor keys

Press down to mount/dismount

Press up to do an Ollie! :)

### **2.1.2 Pause/Menu**

Escape key



## **COMMAND LINE INTERFACE**

These examples are for development in a virtual environment

### **3.1 Commands**

#### **3.1.1 Run**

```
python badwing run
```

#### **3.1.2 Development**

```
python badwing dev sandbox
```



---

CHAPTER  
FOUR

---

BADWING

## 4.1 badwing package

### 4.1.1 Subpackages

**badwing.character package**

**Subpackages**

**badwing.character.controller package**

**Submodules**

**badwing.character.controller.controller module**

```
class badwing.character.controller.controller.CharacterController(model=None,  
                                                               passthrough=None)  
Bases: badwing.controller.Controller
```

**badwing.character.controller.kinematic module**

```
class badwing.character.controller.kinematic.KinematicController(pc)  
Bases: badwing.character.controller.controller.CharacterController  
  
can_jump(y_distance=5) → bool  
disable_multi_jump()  
enable_multi_jump(allowed_jumps: int)  
increment_jump_counter()  
is_on_ladder()  
jump(velocity: int)  
mount()  
  
on_key_press(key, modifiers)  
    Called whenever a key is pressed.  
on_key_release(key, modifiers)  
    Called when the user releases a key.
```

```
process_keychange()  
update(delta_time=0.01666666666666666)
```

## Module contents

### Submodules

#### **badwing.character.character module**

#### **badwing.character.kinematic module**

```
class badwing.character.kinematic.KinematicCharacter(position=0, 0, sprite=None)  
Bases: badwing.model.KinematicModel  
  
control()  
  
classmethod create(position=0, 0)  
  
create_body()  
  
create_shapes()  
  
on_dismount(model, point)  
  
on_mount(model, point)  
  
update_sprite(delta_time=0.01666666666666666)
```

#### **badwing.character.layer module**

```
class badwing.character.layer.CharacterTileLayer(level, name)  
Bases: badwing.tile.TileLayer
```

#### **badwing.character.sprite module**

```
class badwing.character.sprite.CharacterSprite(position,  
                                              main_path=':resources:images/animated_characters/male_adver...  
Bases: arcade.sprite.Sprite  
  
update_animation(delta_time: float = 0.01666666666666666)  
Override this to add code that will change what image is shown, so the sprite can be animated.
```

Parameters **delta\_time** (*float*) – Time since last update.

```
badwing.character.sprite.load_texture_pair(filename)  
Load a texture pair, with the second being a mirror image.
```

## Module contents

### badwing.characters package

#### Subpackages

##### badwing.characters.butterfly package

#### Submodules

##### badwing.characters.butterfly.brain module

```
class badwing.characters.butterfly.brain.ButterflyBrain(model)
    Bases: badwing.brain.Brain

    at_goal()
    forward(distance)
    left(angle)
    micro_left()
    micro_right()
    move()
    move_to(end_pos)
    randforward()
    right(angle)
    try_move(delta)
    update(delta_time)

badwing.characters.butterfly.brain.distance2d(start, end)
```

##### badwing.characters.butterfly.butterfly module

```
class badwing.characters.butterfly.butterfly.Butterflies(border=0, 0, 640, 480)
    Bases: badwing.model.Group

    classmethod create_random(count, border=0, 0, 640, 480)

class badwing.characters.butterfly.butterfly.Butterfly(position=0, 0, sprite=None,
                                                       border=0, 0, 640, 480)
    Bases: badwing.model.Model

    classmethod create(kind, position=0, 0, border=0, 0, 640, 480)
    classmethod create_from(sprite)

class badwing.characters.butterfly.butterfly.ButterflyAqua(position=0,           0,
                                                          sprite=None,      border=0, 0, 640, 480)
    Bases: badwing.characters.butterfly.butterfly.Butterfly

    classmethod create(position, border=0, 0, 640, 480)
```

```
class badwing.characters.butterfly.butterfly.ButterflyBlue (position=0,           0,
                                                               sprite=None,      border=0, 0, 640, 480)
Bases: badwing.characters.butterfly.butterfly.Butterfly
classmethod create (position, border=0, 0, 640, 480)

class badwing.characters.butterfly.butterfly.ButterflyBrown (position=0,          0,
                                                               sprite=None,      border=0, 0, 640,
                                                               480)
Bases: badwing.characters.butterfly.butterfly.Butterfly
classmethod create (position, border=0, 0, 640, 480)

class badwing.characters.butterfly.butterfly.ButterflyCyan (position=0,           0,
                                                               sprite=None,      border=0, 0, 640, 480)
Bases: badwing.characters.butterfly.butterfly.Butterfly
classmethod create (position, border=0, 0, 640, 480)

class badwing.characters.butterfly.butterfly.ButterflyFactory (layer)
Bases: badwing.model.ModelFactory

setup()

class badwing.characters.butterfly.butterfly.ButterflyGreen (position=0,          0,
                                                               sprite=None,      border=0, 0, 640,
                                                               480)
Bases: badwing.characters.butterfly.butterfly.Butterfly
classmethod create (position, border=0, 0, 640, 480)

class badwing.characters.butterfly.butterfly.ButterflyIridescent (position=0,        0,
                                                               sprite=None,      border=0, 0,
                                                               640, 480)
Bases: badwing.characters.butterfly.butterfly.Butterfly
classmethod create (position, border=0, 0, 640, 480)

class badwing.characters.butterfly.butterfly.ButterflyRed (position=0,           0,
                                                               sprite=None,      border=0,
                                                               0, 640, 480)
Bases: badwing.characters.butterfly.butterfly.Butterfly
classmethod create (position, border=0, 0, 640, 480)

class badwing.characters.butterfly.butterfly.ButterflyTan (position=0,           0,
                                                               sprite=None,      border=0,
                                                               0, 640, 480)
Bases: badwing.characters.butterfly.butterfly.Butterfly
classmethod create (position, border=0, 0, 640, 480)

class badwing.characters.butterfly.butterfly.ButterflyTeal (position=0,           0,
                                                               sprite=None,      border=0, 0, 640, 480)
Bases: badwing.characters.butterfly.butterfly.Butterfly
classmethod create (position, border=0, 0, 640, 480)
```

## badwing.characters.butterfly.sprite module

```
class badwing.characters.butterfly.sprite.ButterflySprite(index, position)
    Bases: arcade.sprite.Sprite

    face_left (**kwargs)
    face_right (**kwargs)

    update_animation(delta_time: float = 0.01666666666666666)
        Override this to add code that will change what image is shown, so the sprite can be animated.

        Parameters delta_time (float) – Time since last update.
```

### Module contents

## badwing.characters.robot package

### Submodules

#### badwing.characters.robot.brain module

```
class badwing.characters.robot.robot.Robot(position=0, 0, sprite=None)
    Bases: badwing.character.kinematic.KinematicCharacter

    classmethod create(position=0, 0)
```

### Module contents

## badwing.characters.skeleton package

### Submodules

#### badwing.characters.skeleton.brain module

#### badwing.characters.skeleton.skeleton module

```
class badwing.characters.skeleton.skeleton.Skeleton(position=(0, 0),
                                                    sprite=None, brain=None,
                                                    physics=<class 'bad-
                                                    wing.physics.kinematic.KinematicPhysics'>,
                                                    geom=<class 'bad-
                                                    wing.geom.HullGeom'>)
    Bases: badwing.model.KinematicModel

    classmethod create(position=0, 0)

class badwing.characters.skeleton.skeleton.SkeletonSprite(position)
    Bases: arcade.sprite.Sprite
```

## Module contents

### Submodules

#### badwing.characters.blob module

```
class badwing.characters.blob.Blob(position=(0, 0), sprite=None, brain=None, physics=<class 'badwing.physics.kinematic.KinematicPhysics'>, geom=<class 'badwing.geom.HullGeom'>)
Bases: badwing.model.KinematicModel

classmethod create(position=0, 0)

class badwing.characters.blob.BlobSprite(position)
Bases: arcade.sprite.Sprite

on_update(delta_time)
    Update the sprite. Similar to update, but also takes a delta-time.
```

#### badwing.characters.factory module

```
class badwing.characters.factory.CharacterFactory(layer)
Bases: badwing.model.ModelFactory

setup()
```

#### badwing.characters.pc module

```
class badwing.characters.pc.PlayerCharacter(position=0, 0, sprite=None)
Bases: badwing.character.kinematic.KinematicCharacter

classmethod create(position=0, 0)
```

#### badwing.characters.skateboard module

```
class badwing.characters.skateboard.Chassis(position=0, 0, sprite=None)
Bases: badwing.model.DynamicModel

classmethod create(position=0, 0)

class badwing.characters.skateboard.Skateboard(position=Vec2d(0, 0))
Bases: badwing.model.PhysicsGroup

accelerate(rate=1)
attach_motors()
coast()
control()
classmethod create(position=0, 0)
decelerate(rate=1)
detach_motors()
```

```

dismount()
do_setup()
mount (mountee)
ollie (**kwargs)
update (delta_time=0.01666666666666666)

class badwing.characters.skateboard.SkateboardController (skateboard)
    Bases: badwing.character.controller.controller.CharacterController
        on_key_press (key, modifiers)
        on_key_release (key, modifiers)
        update (delta_time)

class badwing.characters.skateboard.Wheel (position=0, 0, sprite=None)
    Bases: badwing.model.DynamicModel
        classmethod create (position=0, 0)

```

## Module contents

### [badwing.command package](#)

#### Module contents

### [badwing.level package](#)

#### Submodules

##### [badwing.level.level module](#)

```

class badwing.level.level.Level (name)
    Bases: badwing.scene.Scene
        beat_level()
        check_collisions()
        do_setup()
        on_key_press (key, modifiers)
            Override this function to add key press functionality.

```

#### Parameters

- **symbol** (*int*) – Key that was hit
- **modifiers** (*int*) – Bitwise ‘and’ of all modifiers (shift, ctrl, num lock) pressed during this event. See `keyboard_modifiers`.

**on\_key\_release (key, modifiers)**  
 Override this function to add key release functionality.

#### Parameters

- **\_symbol** (*int*) – Key that was hit

- `_modifiers (int)` – Bitwise ‘and’ of all modifiers (shift, ctrl, num lock) pressed during this event. See `keyboard_modifiers`.

```
property pc
property pc_sprite
pop_pc()
push_pc(pc)
update(delta_time)
    To be overridden
```

### badwing.level.sticker module

```
class badwing.level.sticker.StickerLevel(name)
Bases: badwing.level.level.Level

check_butterflies()
check_coins()
check_collisions()
check_flags()
classmethod create()
do_setup()
draw()
get_next_level()
post_setup()
update(delta_time)
    To be overridden
```

### badwing.level.tile module

```
class badwing.level.tile.TileLevel(name)
Bases: badwing.level.level.Level

check_butterflies()
check_collisions()
check_flags()
classmethod create()
do_setup()
draw()
get_next_level()
post_setup()
update(delta_time)
    To be overridden
```

## Module contents

### badwing.physics package

#### Submodules

##### badwing.physics.dynamic module

```
class badwing.physics.dynamic.DynamicPhysics
    Bases: badwing.physics.physics.Physics

    create_body(model, offset=None)
    setup()
    update(model, delta_time=0.01666666666666666)

class badwing.physics.dynamic.DynamicPhysicsEngine(gravity=0.0, - 900.0, iterations=35)
    Bases: badwing.physics.engine.PhysicsEngine
```

##### badwing.physics.engine module

```
class badwing.physics.engine.PhysicsEngine(gravity=0.0, - 900.0, iterations=35)
    Bases: object

    setup()
    update(delta_time=0.01666666666666666)
```

##### badwing.physics.kinematic module

```
class badwing.physics.kinematic.CollisionHandler(handler)
    Bases: object

    begin(arbiter, space, data)
    post_solve(arbiter, space, data)
    pre_solve(arbiter, space, data)
    separate(arbiter, space, data)

class badwing.physics.kinematic.KinematicDynamicHandler(handler)
    Bases: badwing.physics.kinematic.CollisionHandler

    pre_solve(arbiter, space, data)

class badwing.physics.kinematic.KinematicKinematicHandler(handler)
    Bases: badwing.physics.kinematic.CollisionHandler

    pre_solve(arbiter, space, data)

class badwing.physics.kinematic.KinematicPhysics
    Bases: badwing.physics.physics.Physics

    create_body(model, offset=None)
    setup()
```

```
    update (model, delta_time=0.01666666666666666666)
class badwing.physics.kinematic.KinematicPhysicsEngine (gravity=0.0, - 900.0)
    Bases: badwing.physics.engine.PhysicsEngine
    setup ()

class badwing.physics.kinematic.KinematicStaticHandler (handler)
    Bases: badwing.physics.kinematic.CollisionHandler
    pre_solve (arbiter, space, data)
```

## badwing.physics.physics module

```
    class badwing.physics.physics.GroupPhysics (kind=3)
        Bases: badwing.physics.physics.Physics
        create_body (model, offset=None)
        setup ()
        update (model, delta_time=0.0166666666666666)

    class badwing.physics.physics.Physics (kind)
        Bases: object
        create_body (model, offset=None)
        setup ()
        update (model, delta_time=0.0166666666666666)

    class badwing.physics.physics.PhysicsMeta
        Bases: type
```

## badwing.physics.static module

```
    class badwing.physics.static.StaticPhysics
        Bases: badwing.physics.physics.Physics
        create_body (model, offset=None)
        setup ()
        update (model, delta_time=0.0166666666666666)
```

## badwing.physics.util module

badwing.physics.util.check\_grounding (body)  
See if the player is on the ground. Used to see if we can jump.

## Module contents

### badwing.player package

#### Module contents

```
class badwing.player.Player
    Bases: object

    collect(item)
    collect_butterfly(item)
    collect_coin(item)
    collect_flag(flag)
    on_next_level()
    update(dt)
```

### badwing.util package

#### Module contents

##### badwing.util.debounce(wait)

Decorator that will postpone a functions execution until after wait seconds have elapsed since the last time it was invoked.

## 4.1.2 Submodules

### badwing.app module

### badwing.assets module

```
badwing.assets.asset(filename)
badwing.assets.load_asset(filename, mode='rb')
badwing.assets.load_asset_zip(filename)
```

### badwing.background module

```
class badwing.background.BackgroundLayer(level, name, filename)
    Bases: badwing.tile.TileLayer

    draw()
    setup()
```

### **badwing.barrier module**

```
class badwing.barrier.Barrier(left, bottom, right, top)
    Bases: badwing.model.StaticModel

class badwing.barrier.BarrierLayer(level, name)
    Bases: badwing.layer.Layer

    setup()
```

### **badwing.brain module**

```
class badwing.brain.Brain(model)
    Bases: object

    property position
    property sprite
    update(delta_time)
```

### **badwing.coin module**

```
class badwing.coin.Coin(position, sprite)
    Bases: badwing.model.Model

    classmethod create(position, sprite)

class badwing.coin.CoinFactory(layer)
    Bases: badwing.model.ModelFactory

    setup()

class badwing.coin.Gem(position=0, 0, sprite=None)
    Bases: badwing.coin.Coin

    classmethod create(position=0, 0, sprite=None)
```

### **badwing.constants module**

#### **badwing.controller module**

```
class badwing.controller.Controller(passthrough=None)
    Bases: object

    on_key_press(key, modifiers)
    on_key_release(key, modifiers)
    on_mouse_press(x: float, y: float, button: int, modifiers: int)
    update(dt)
```

## badwing.debug module

```
class badwing.debug.DebugLayer (level, name)
    Bases: badwing.layer.Layer

    add (shape)
    draw ()
    setup ()
```

## badwing.dialog module

```
class badwing.dialog.Dialog (name)
    Bases: badwing.view.View

    draw ()
    setup ()
```

## badwing.effect module

```
class badwing.effect.Effect (position=0, 0)
    Bases: arcade.sprite.Sprite

    setup ()
    update (delta_time=0.01666666666666666)
        Update the sprite.

class badwing.effect.EffectList (effects[])
    Bases: object

    append (effect)
    draw ()
    update (delta_time)
```

## badwing.firework module

```
class badwing.firework.Firework (position=0, 0, r1=30, r2=40)
    Bases: badwing.effect.Effect

    draw ()
        Draw the sprite.
```

### Parameters

- **filter** – Optional parameter to set OpenGL filter, such as `gl.GL_NEAREST` to avoid smoothing.
- **pixelated** – True for pixelated and False for smooth interpolation. Shortcut for setting `filter=GL_NEAREST`.
- **blend\_function** – Optional parameter to set the OpenGL blend function used for drawing the sprite list, such as ‘arcade.Window.ctx.BLEND\_ADDITIVE’ or ‘arcade.Window.ctx.BLEND\_DEFAULT’

```
make_sparks (position)
```

```
update(delta_time)
    Update the sprite.

badwing.firework.firework_spark_mutator(particle: arcade.particle.FadeParticle)
    mutation_callback shared by all fireworks sparks
```

## badwing.flag module

```
class badwing.flag.Flag(position, sprite)
    Bases: badwing.model.Model

    collect()

    classmethod create(position, sprite)

class badwing.flag.FlagFactory(layer)
    Bases: badwing.model.ModelFactory

    setup()

class badwing.flag.FlagGreen(position, sprite)
    Bases: badwing.flag.Flag

    classmethod create(position, sprite)

class badwing.flag.FlagRed(position, sprite)
    Bases: badwing.flag.Flag

    classmethod create(position, sprite)

class badwing.flag.FlagYellow(position, sprite)
    Bases: badwing.flag.Flag

    classmethod create(position, sprite)

class badwing.flag.Pole(position, sprite)
    Bases: badwing.model.Model
```

## badwing.geom module

```
class badwing.geom.BallGeom
    Bases: badwing.geom.G geom

    create_shapes(model, transform=None)
    get_moment(model)

class badwing.geom.BoxGeom
    Bases: badwing.geom.G geom

    create_shapes(model, transform=None)
    get_moment(model)

class badwing.geom.DecomposedGeom
    Bases: badwing.geom.PolyGeom

    create_shapes(model, transform=None)

class badwing.geom.Geom(kind)
    Bases: object

    create_shapes(model, transform=None)
```

```
class badwing.geom.GeoMeta
Bases: type

class badwing.geom.GroupGeom
Bases: badwing.geom.Geo

    create_shapes (model)
    get_moment (model)

class badwing.geom.HullGeom
Bases: badwing.geom.PolyGeom

    create_shapes (model, transform=None)

class badwing.geom.PolyGeom (kind)
Bases: badwing.geom.Geo

    get_moment (model)
```

## badwing.layer module

```
class badwing.layer.Layer (level, name, factory=None)
Bases: object

    add_effect (effect)
    add_model (model)
    add_sprite (sprite)
    draw ()
    setup ()
    update (delta_time)
    update_animation (delta_time)
```

## badwing.main module

```
class badwing.main.MyGame (debug=False)
Bases: arcade.application.Window

    property controller

    get_scene (scenename=None)

    on_draw ()
        Override this function to add your custom drawing code.

    setup ()

    show_scene (scene_class, delay=0)

    update (delta_time)
        Move everything. For better consistency in naming, use on_update instead.

        Parameters delta_time (float) – Time interval since the last time the function was called
        in seconds.

badwing.main.main (debug=False, levelname=None)
```

## badwing.model module

```
class badwing.model.DynamicModel (position=(0, 0), sprite=None, brain=None, physics=<class  
    'badwing.physics.dynamic.DynamicPhysics'>, geom=<class  
    'badwing.geom.HullGeom'>)  
Bases: badwing.model.PhysicsModel  
  
class badwing.model.Group (position=0, 0)  
Bases: badwing.model.Model  
  
    add_model (model)  
  
    do_setup ()  
  
    id_counter = 1  
  
class badwing.model.KinematicModel (position=(0, 0), sprite=None, brain=None, physics=<class  
    'badwing.physics.kinematic.KinematicPhysics'>, geom=<class 'badwing.geom.HullGeom'>)  
Bases: badwing.model.PhysicsModel  
  
    create_body ()  
  
    update (delta_time=0.01666666666666666)  
  
class badwing.model.Model (position=0, 0, sprite=None, brain=None)  
Bases: object  
  
    do_setup ()  
  
    on_dismount (position)  
  
    on_mount (position)  
  
    post_setup ()  
  
    pre_setup ()  
  
    setup (layer)  
  
    update (delta_time)  
  
    update_brain (delta_time)  
  
    update_physics (delta_time)  
  
    update_sprite (delta_time=0.01666666666666666)  
  
class badwing.model.ModelFactory (layer)  
Bases: object  
  
class badwing.model.PhysicsGroup (position=(0, 0), physics=<class  
    'badwing.physics.physics.GroupPhysics'>, geom=<class  
    'badwing.geom.GroupGeom'>)  
Bases: badwing.model.PhysicsModel  
  
    add_model (model)  
  
    do_setup ()  
  
    id_counter = 1  
  
    post_setup ()
```

---

```

class badwing.model.PhysicsModel (position=(0, 0), sprite=None, brain=None, physics=<class
    'badwing.physics.static.StaticPhysics'>, geom=<class 'bad-
    wing.geom.HullGeom'>)

Bases: badwing.model.Model

add_shapes ()

create_body (offset=None)

create_shapes (transform=None)

create_transform()

do_setup()

get_tx_point (offset)

property physics

post_setup()

remove_shapes()

update_physics (delta_time=0.01666666666666666)

class badwing.model.StaticModel (position=(0, 0), sprite=None, brain=None, physics=<class
    'badwing.physics.static.StaticPhysics'>, geom=<class 'bad-
    wing.geom.HullGeom'>)

Bases: badwing.model.PhysicsModel

```

## badwing.obstacle module

```

class badwing.obstacle.Ball (position=0, 0, sprite=None)
Bases: badwing.obstacle.Obstacle

classmethod create (sprite)

class badwing.obstacle.Box (position=0, 0, sprite=None)
Bases: badwing.obstacle.Obstacle

classmethod create (sprite)

class badwing.obstacle.Obstacle (position, sprite, geom)
Bases: badwing.model.DynamicModel

classmethod create (sprite)

class badwing.obstacle.ObstacleFactory (layer)
Bases: badwing.model.ModelFactory

setup()

class badwing.obstacle.Rock (position=0, 0, sprite=None)
Bases: badwing.obstacle.Obstacle

classmethod create (sprite)

```

## badwing.particle module

```
class badwing.particle.AnimatedAlphaParticle(filename_or_texture: Union[str, arcade.texture.Texture], change_xy: Union[Tuple[float, float], List[float]], start_alpha: int = 0, duration1: float = 1.0, mid_alpha: int = 255, duration2: float = 1.0, end_alpha: int = 0, center_xy: Union[Tuple[float, float], List[float]] = (0.0, 0.0), angle: float = 0, change_angle: float = 0, scale: float = 1.0, mutation_callback=None)
```

Bases: `arcade.particle.LifetimeParticle`

A custom particle that animates between three different alpha scenes

**update()**

Advance the Particle's simulation

`badwing.particle.clamp(a, low, high)`

## badwing.scene module

```
class badwing.scene.Scene(name)
```

Bases: `badwing.view.View`

**add\_animated\_layer(layer)**

**add\_layer(layer)**

**close\_dialog()**

**property controller**

**do\_setup()**

**draw()**

**draw\_dialog()**

**on\_draw()**

Called when this view should draw

**on\_key\_press(key, modifiers)**

Override this function to add key press functionality.

### Parameters

- **symbol** (*int*) – Key that was hit
- **modifiers** (*int*) – Bitwise ‘and’ of all modifiers (shift, ctrl, num lock) pressed during this event. See `keyboard_modifiers`.

**on\_key\_release(key, modifiers)**

Override this function to add key release functionality.

### Parameters

- **\_symbol** (*int*) – Key that was hit
- **\_modifiers** (*int*) – Bitwise ‘and’ of all modifiers (shift, ctrl, num lock) pressed during this event. See `keyboard_modifiers`.

---

**on\_mouse\_press** (*x: float, y: float, button: int, modifiers: int*)

Override this function to add mouse button functionality.

#### Parameters

- **x** (*float*) – x position of the mouse
- **y** (*float*) – y position of the mouse
- **button** (*int*) – What button was hit. One of: arcade.MOUSE\_BUTTON\_LEFT, arcade.MOUSE\_BUTTON\_RIGHT, arcade.MOUSE\_BUTTON\_MIDDLE
- **modifiers** (*int*) – Bitwise ‘and’ of all modifiers (shift, ctrl, num lock) pressed during this event. See keyboard\_modifiers.

**open\_dialog** (*dialog*)

**pause** ()

**pop\_controller** ()

**post\_setup** ()

**pre\_setup** ()

**push\_controller** (*controller*)

**resume** ()

**setup** ()

**shutdown** ()

**update** (*delta\_time*)

To be overridden

## badwing.tile module

**class** badwing.tile.Tile (*position, sprite*)

Bases: *badwing.model.StaticModel*

**update** (*dt*)

**class** badwing.tile.TileFactory (*layer*)

Bases: *badwing.model.ModelFactory*

**setup** ()

**class** badwing.tile.TileLayer (*level, name, factory=None*)

Bases: *badwing.layer.Layer*

## badwing.version module

### badwing.view module

**class** badwing.view.View (*window=None*)

Bases: *arcade.application.View*

**close** ()

**on\_draw** ()

Called when this view should draw

**on\_hide\_view()**

Called when this view is not shown anymore

**open()**

**setup()**

#### **4.1.3 Module contents**

---

**CHAPTER  
FIVE**

---

**INDICES AND TABLES**

- genindex
- modindex
- search



## PYTHON MODULE INDEX

### b

badwing, 28  
badwing.app, 19  
badwing.assets, 19  
badwing.background, 19  
badwing.barrier, 20  
badwing.brain, 20  
badwing.character, 11  
badwing.character.character, 10  
badwing.character.controller, 10  
badwing.character.controller.controller,  
    9  
badwing.character.controller.kinematic,  
    9  
badwing.character.kinematic, 10  
badwing.character.layer, 10  
badwing.character.sprite, 10  
badwing.characters, 15  
badwing.characters.blob, 14  
badwing.characters.butterfly, 13  
badwing.characters.butterfly.brain, 11  
badwing.characters.butterfly.butterfly,  
    11  
badwing.characters.butterfly.sprite, 13  
badwing.characters.factory, 14  
badwing.characters.pc, 14  
badwing.characters.robot, 13  
badwing.characters.robot.robot, 13  
badwing.characters.skateboard, 14  
badwing.characters.skeleton, 14  
badwing.characters.skeleton.skeleton,  
    13  
badwing.coin, 20  
badwing.command, 15  
badwing.constants, 20  
badwing.controller, 20  
badwing.debug, 21  
badwing.dialog, 21  
badwing.effect, 21  
badwing.firework, 21  
badwing.flag, 22  
badwing.geom, 22  
badwing.layer, 23  
badwing.level, 17  
badwing.level.level, 15  
badwing.level.sticker, 16  
badwing.level.tile, 16  
badwing.main, 23  
badwing.model, 24  
badwing.obstacle, 25  
badwing.particle, 26  
badwing.physics, 19  
badwing.physics.dynamic, 17  
badwing.physics.engine, 17  
badwing.physics.kinematic, 17  
badwing.physics.physics, 18  
badwing.physics.static, 18  
badwing.physics.util, 18  
badwing.player, 19  
badwing.scene, 26  
badwing.tile, 27  
badwing.util, 19  
badwing.version, 27  
badwing.view, 27



# INDEX

## A

accelerate() (badwing.characters.skateboard.Skateboard method), 14  
add() (badwing.debug.DebugLayer method), 21  
add\_animated\_layer() (badwing.scene.Scene method), 26  
add\_effect() (badwing.layer.Layer method), 23  
add\_layer() (badwing.scene.Scene method), 26  
add\_model() (badwing.layer.Layer method), 23  
add\_model() (badwing.model.Group method), 24  
add\_model() (badwing.model.PhysicsGroup method), 24  
add\_shapes() (badwing.model.PhysicsModel method), 25  
add\_sprite() (badwing.layer.Layer method), 23  
AnimatedAlphaParticle (class in badwing.particle), 26  
append() (badwing.effect.EffectList method), 21  
asset() (in module badwing.assets), 19  
at\_goal() (badwing.characters.butterfly.brain.ButterflyBrain method), 11  
attach\_motors() (badwing.characters.skateboard.Skateboard method), 14

## B

BackgroundLayer (class in badwing.background), 19  
badwing  
    module, 28  
badwing.app  
    module, 19  
badwing.assets  
    module, 19  
badwing.background  
    module, 19  
badwing.barrier  
    module, 20  
badwing.brain  
    module, 20  
badwing.character  
    module, 11

badwing.character.character  
    module, 10  
badwing.character.controller  
    module, 10  
badwing.character.controller.controller  
    module, 9  
badwing.character.controller.kinematic  
    module, 9  
badwing.character.kinematic  
    module, 10  
badwing.character.layer  
    module, 10  
badwing.character.sprite  
    module, 10  
badwing.characters  
    module, 15  
badwing.characters.blob  
    module, 14  
badwing.characters.butterfly  
    module, 13  
badwing.characters.butterfly.brain  
    module, 11  
badwing.characters.butterfly.butterfly  
    module, 11  
badwing.characters.butterfly.sprite  
    module, 13  
badwing.characters.factory  
    module, 14  
badwing.characters.pc  
    module, 14  
badwing.characters.robot  
    module, 13  
badwing.characters.robot.robot  
    module, 13  
badwing.characters.skateboard  
    module, 14  
badwing.characters.skeleton  
    module, 14  
badwing.characters.skeleton.skeleton  
    module, 13  
badwing.coin  
    module, 20

badwing.command  
    module, 15  
badwing.constants  
    module, 20  
badwing.controller  
    module, 20  
badwing.debug  
    module, 21  
badwing.dialog  
    module, 21  
badwing.effect  
    module, 21  
badwing.firework  
    module, 21  
badwing.flag  
    module, 22  
badwing.geom  
    module, 22  
badwing.layer  
    module, 23  
badwing.level  
    module, 17  
badwing.level.level  
    module, 15  
badwing.level.sticker  
    module, 16  
badwing.level.tile  
    module, 16  
badwing.main  
    module, 23  
badwing.model  
    module, 24  
badwing.obstacle  
    module, 25  
badwing.particle  
    module, 26  
badwing.physics  
    module, 19  
badwing.physics.dynamic  
    module, 17  
badwing.physics.engine  
    module, 17  
badwing.physics.kinematic  
    module, 17  
badwing.physics.physics  
    module, 18  
badwing.physics.static  
    module, 18  
badwing.physics.util  
    module, 18  
badwing.player  
    module, 19  
badwing.scene  
    module, 26

badwing.tile  
    module, 27  
badwing.util  
    module, 19  
badwing.version  
    module, 27  
badwing.view  
    module, 27  
Ball (*class in badwing.obstacle*), 25  
BallGeom (*class in badwing.geom*), 22  
Barrier (*class in badwing.barrier*), 20  
BarrierLayer (*class in badwing.barrier*), 20  
beat\_level () (*badwing.level.level.Level method*), 15  
begin () (*badwing.physics.kinematic.CollisionHandler method*), 17  
Blob (*class in badwing.characters.blob*), 14  
BlobSprite (*class in badwing.characters.blob*), 14  
Box (*class in badwing.obstacle*), 25  
BoxGeom (*class in badwing.geom*), 22  
Brain (*class in badwing.brain*), 20  
Butterflies (*class in badwing.characters.butterfly.butterfly*), 11  
Butterfly (*class in badwing.characters.butterfly.butterfly*), 11  
ButterflyAqua (*class in badwing.characters.butterfly.butterfly*), 11  
ButterflyBlue (*class in badwing.characters.butterfly.butterfly*), 11  
ButterflyBrain (*class in badwing.characters.butterfly.brain*), 11  
ButterflyBrown (*class in badwing.characters.butterfly.butterfly*), 12  
ButterflyCyan (*class in badwing.characters.butterfly.butterfly*), 12  
ButterflyFactory (*class in badwing.characters.butterfly.butterfly*), 12  
ButterflyGreen (*class in badwing.characters.butterfly.butterfly*), 12  
ButterflyIridescent (*class in badwing.characters.butterfly.butterfly*), 12  
ButterflyRed (*class in badwing.characters.butterfly.butterfly*), 12  
ButterflySprite (*class in badwing.characters.butterfly.sprite*), 13  
ButterflyTan (*class in badwing.characters.butterfly.butterfly*), 12  
ButterflyTeal (*class in badwing.characters.butterfly.butterfly*), 12

**C**

can\_jump () (*badwing.character.controller.kinematic.KinematicController method*), 9  
CharacterController (*class in badwing.character.controller.controller*), 9

CharacterFactory (class in wing.characters.factory), 14  
CharacterSprite (class in wing.character.sprite), 10  
CharacterTileLayer (class in wing.character.layer), 10  
Chassis (class in badwing.characters.skateboard), 14  
check\_butterflies() (badwing.level.sticker.StickerLevel method), 16  
check\_butterflies() (badwing.level.tile.TileLevel method), 16  
check\_coins() (badwing.level.sticker.StickerLevel method), 16  
check\_collisions() (badwing.level.level.Level method), 15  
check\_collisions() (badwing.level.sticker.StickerLevel method), 16  
check\_collisions() (badwing.level.tile.TileLevel method), 16  
check\_flags() (badwing.level.sticker.StickerLevel method), 16  
check\_flags() (badwing.level.tile.TileLevel method), 16  
check\_grounding() (in module badwing.physics.util), 18  
clamp() (in module badwing.particle), 26  
close() (badwing.view.View method), 27  
close\_dialog() (badwing.scene.Scene method), 26  
coast() (badwing.characters.skateboard.Skateboard method), 14  
Coin (class in badwing.coin), 20  
CoinFactory (class in badwing.coin), 20  
collect() (badwing.flag.Flag method), 22  
collect() (badwing.player.Player method), 19  
collect\_butterfly() (badwing.player.Player method), 19  
collect\_coin() (badwing.player.Player method), 19  
collect\_flag() (badwing.player.Player method), 19  
CollisionHandler (class in badwing.physics.kinematic), 17  
control() (badwing.character.kinematic.KinematicCharacter method), 10  
control() (badwing.characters.skateboard.Skateboard method), 14  
Controller (class in badwing.controller), 20  
controller() (badwing.main.MyGame property), 23  
controller() (badwing.scene.Scene property), 26  
create() (badwing.character.kinematic.KinematicCharacter class method), 10  
create() (badwing.characters.blob.Blob class method), 14  
create() (badwing.characters.butterfly.butterfly.Butterfly class method), 11  
create() (badwing.characters.butterfly.butterfly.ButterflyAqua class method), 11  
create() (badwing.characters.butterfly.butterfly.ButterflyBlue class method), 12  
create() (badwing.characters.butterfly.butterfly.ButterflyBrown class method), 12  
create() (badwing.characters.butterfly.butterfly.ButterflyCyan class method), 12  
create() (badwing.characters.butterfly.butterfly.ButterflyGreen class method), 12  
create() (badwing.characters.butterfly.butterfly.ButterflyIridescent class method), 12  
create() (badwing.characters.butterfly.butterfly.ButterflyRed class method), 12  
create() (badwing.characters.butterfly.butterfly.ButterflyTan class method), 12  
create() (badwing.characters.butterfly.butterfly.ButterflyTeal class method), 12  
create() (badwing.characters.pc.PlayerCharacter class method), 14  
create() (badwing.characters.robot.robot.Robot class method), 13  
create() (badwing.characters.skateboard.Chassis class method), 14  
create() (badwing.characters.skateboard.Skateboard class method), 14  
create() (badwing.characters.skateboard.Wheel class method), 15  
create() (badwing.characters.skeleton.skeleton.Skeleton class method), 13  
create() (badwing.coin.Coin class method), 20  
create() (badwing.coin.Gem class method), 20  
create() (badwing.flag.Flag class method), 22  
create() (badwing.flag.FlagGreen class method), 22  
create() (badwing.flag.FlagRed class method), 22  
create() (badwing.flag.FlagYellow class method), 22  
create() (badwing.level.sticker.StickerLevel class method), 16  
create() (badwing.level.tile.TileLevel class method), 16  
create() (badwing.obstacle.Ball class method), 25  
create() (badwing.obstacle.Box class method), 25  
create() (badwing.obstacle.Obstacle class method), 25  
create() (badwing.obstacle.Rock class method), 25  
create\_body() (badwing.character.kinematic.KinematicCharacter method), 10  
create\_body() (badwing.model.KinematicModel method), 24  
create\_body() (badwing.model.PhysicsModel method), 25  
create\_body() (badwing.physics.dynamic.DynamicPhysics method), 17

```

create_body()                                (bad-
    wing.physics.kinematic.KinematicPhysics
    method), 17
create_body()                                (bad-
    wing.physics.physics.GroupPhysics   method),
    18
create_body()      (badwing.physics.physics.Physics
    method), 18
create_body() (badwing.physics.static.StaticPhysics
    method), 18
create_from()          (bad-
    wing.characters.butterfly.butterfly.Butterfly
    class method), 11
create_random()          (bad-
    wing.characters.butterfly.butterfly.Butterflies
    class method), 11
create_shapes()          (bad-
    wing.character.kinematic.KinematicCharacter
    method), 10
create_shapes()          (badwing.geom.BallGeom
    method), 22
create_shapes()          (badwing.geom.BoxGeom
    method), 22
create_shapes()          (bad-
    wing.geom.DecomposedGeom        method),
    22
create_shapes()          (badwing.geom.Geom method), 22
create_shapes()          (badwing.geom.GroupGeom
    method), 23
create_shapes()          (badwing.geom.HullGeom
    method), 23
create_shapes()          (badwing.model.PhysicsModel
    method), 25
create_transform()          (bad-
    wing.model.PhysicsModel method), 25

```

**D**

```

debounce () (in module badwing.util), 19
DebugLayer (class in badwing.debug), 21
decelerate()          (bad-
    wing.characters.skateboard.Skateboard
    method), 14
DecomposedGeom (class in badwing.geom), 22
detach_motors()          (bad-
    wing.characters.skateboard.Skateboard
    method), 14
Dialog (class in badwing.dialog), 21
disable_multi_jump()          (bad-
    wing.character.controller.kinematic.KinematicController
    method), 9
dismount () (badwing.characters.skateboard.Skateboard
    method), 14
distance2d()          (in module       bad-
    wing.characters.butterfly.brain), 11

```

```

do_setup () (badwing.characters.skateboard.Skateboard
    method), 15
do_setup () (badwing.level.level.Level method), 15
do_setup ()          (badwing.level.sticker.StickerLevel
    method), 16
do_setup () (badwing.level.tile.TileLevel method), 16
do_setup () (badwing.model.Group method), 24
do_setup () (badwing.model.Model method), 24
do_setup () (badwing.model.PhysicsGroup method),
    24
do_setup () (badwing.model.PhysicsModel method),
    25
do_setup () (badwing.scene.Scene method), 26
draw ()          (badwing.background.BackgroundLayer
    method), 19
draw ()          (badwing.debug.DebugLayer method), 21
draw ()          (badwing.dialog.Dialog method), 21
draw ()          (badwing.effect.EffectList method), 21
draw ()          (badwing.firework.Firework method), 21
draw ()          (badwing.layer.Layer method), 23
draw ()          (badwing.level.sticker.StickerLevel method), 16
draw ()          (badwing.level.tile.TileLevel method), 16
draw ()          (badwing.scene.Scene method), 26
draw_dialog()          (badwing.scene.Scene method), 26
DynamicModel (class in badwing.model), 24
DynamicPhysics (class in badwing.physics.dynamic),
    17
DynamicPhysicsEngine (class in       bad-
    wing.physics.dynamic), 17

```

**E**

```

Effect (class in badwing.effect), 21
EffectList (class in badwing.effect), 21
enable_multi_jump()          (bad-
    wing.character.controller.kinematic.KinematicController
    method), 9

```

**F**

```

face_left () (badwing.characters.butterfly.sprite.ButterflySprite
    method), 13
face_right()          (bad-
    wing.characters.butterfly.sprite.ButterflySprite
    method), 13
Firework (class in badwing.firework), 21
firework_spark_mutator()          (in module       bad-
    wing.firework), 22
Flag (class in badwing.flag), 22
FlagFactory (class in badwing.flag), 22
FlagGreen (class in badwing.flag), 22
FlagRed (class in badwing.flag), 22
FlagYellow (class in badwing.flag), 22
forward()          (badwing.characters.butterfly.brain.ButterflyBrain
    method), 11

```

**G**

`Gem` (*class in badwing.coin*), 20  
`Geom` (*class in badwing.geom*), 22  
`GeomMeta` (*class in badwing.geom*), 22  
`get_moment ()` (*badwing.geom.BallGeom method*), 22  
`get_moment ()` (*badwing.geom.BoxGeom method*), 22  
`get_moment ()` (*badwing.geom.GroupGeom method*), 23  
`get_moment ()` (*badwing.geom.PolyGeom method*), 23  
`get_next_level ()` (*badwing.level.sticker.StickerLevel method*), 16  
`get_next_level ()` (*badwing.level.tile.TileLevel method*), 16  
`get_scene ()` (*badwing.main.MyGame method*), 23  
`get_tx_point ()` (*badwing.model.PhysicsModel method*), 25  
`Group` (*class in badwing.model*), 24  
`GroupGeom` (*class in badwing.geom*), 23  
`GroupPhysics` (*class in badwing.physics.physics*), 18

**H**

`HullGeom` (*class in badwing.geom*), 23

**I**

`id_counter` (*badwing.model.Group attribute*), 24  
`id_counter` (*badwing.model.PhysicsGroup attribute*), 24  
`increment_jump_counter ()` (*badwing.character.controller.kinematic.KinematicController method*), 9  
`is_on_ladder ()` (*badwing.character.controller.kinematic.KinematicController method*), 9

**J**

`jump ()` (*badwing.character.controller.kinematic.KinematicController method*), 9

**K**

`KinematicCharacter` (*class in badwing.character.kinematic*), 10  
`KinematicController` (*class in badwing.character.controller.kinematic*), 9  
`KinematicDynamicHandler` (*class in badwing.physics.kinematic*), 17  
`KinematicKinematicHandler` (*class in badwing.physics.kinematic*), 17  
`KinematicModel` (*class in badwing.model*), 24  
`KinematicPhysics` (*class in badwing.physics.kinematic*), 17  
`KinematicPhysicsEngine` (*class in badwing.physics.kinematic*), 18

`KinematicStaticHandler` (*class in badwing.physics.kinematic*), 18

**L**

`Layer` (*class in badwing.layer*), 23  
`left ()` (*badwing.characters.butterfly.brain.ButterflyBrain method*), 11  
`Level` (*class in badwing.level.level*), 15  
`load_asset ()` (*in module badwing.assets*), 19  
`load_asset_zip ()` (*in module badwing.assets*), 19  
`load_texture_pair ()` (*in module badwing.character.sprite*), 10

**M**

`main ()` (*in module badwing.main*), 23  
`make_sparks ()` (*badwing.firework.Firework method*), 21  
`micro_left ()` (*badwing.characters.butterfly.brain.ButterflyBrain method*), 11  
`micro_right ()` (*badwing.characters.butterfly.brain.ButterflyBrain method*), 11  
`Model` (*class in badwing.model*), 24  
`ModelFactory` (*class in badwing.model*), 24  
`module`  
  `badwing`, 28  
  `badwing.app`, 19  
`badwing.assets`, 19  
  `badwing.background`, 19  
  `badwing.barrier`, 20  
`badwing.brain`, 20  
  `badwing.character`, 11  
  `badwing.character.character`, 10  
  `badwing.character.controller`, 10  
  `badwing.character.controller.controller`, 9  
  `badwing.character.controller.kinematic`, 9  
  `badwing.character.kinematic`, 10  
  `badwing.character.layer`, 10  
  `badwing.character.sprite`, 10  
  `badwing.characters`, 15  
  `badwing.characters.blob`, 14  
  `badwing.characters.butterfly`, 13  
  `badwing.characters.butterfly.brain`, 11  
  `badwing.characters.butterfly.butterfly`, 11  
  `badwing.characters.butterfly.sprite`, 13  
  `badwing.characters.factory`, 14  
  `badwing.characters.pc`, 14  
  `badwing.characters.robot`, 13

badwing.characters.robot.robot, 13  
badwing.characters.skateboard, 14  
badwing.characters.skeleton, 14  
badwing.characters.skeleton.skeleton, 13  
badwing.coin, 20  
badwing.command, 15  
badwing.constants, 20  
badwing.controller, 20  
badwing.debug, 21  
badwing.dialog, 21  
badwing.effect, 21  
badwing.firework, 21  
badwing.flag, 22  
badwing.geom, 22  
badwing.layer, 23  
badwing.level, 17  
badwing.level.level, 15  
badwing.level.sticker, 16  
badwing.level.tile, 16  
badwing.main, 23  
badwing.model, 24  
badwing.obstacle, 25  
badwing.particle, 26  
badwing.physics, 19  
badwing.physics.dynamic, 17  
badwing.physics.engine, 17  
badwing.physics.kinematic, 17  
badwing.physics.physics, 18  
badwing.physics.static, 18  
badwing.physics.util, 18  
badwing.player, 19  
badwing.scene, 26  
badwing.tile, 27  
badwing.util, 19  
badwing.version, 27  
badwing.view, 27  
mount () (badwing.character.controller.kinematic.KinematicCharacter method), 9  
mount () (badwing.characters.skateboard.Skateboard method), 15  
move () (badwing.characters.butterfly.brain.ButterflyBrain method), 11  
move\_to () (badwing.characters.butterfly.brain.ButterflyBrain method), 11  
MyGame (class in badwing.main), 23

**O**

Obstacle (class in badwing.obstacle), 25  
ObstacleFactory (class in badwing.obstacle), 25  
ollie () (badwing.characters.skateboard.Skateboard method), 15  
on\_dismount () (badwing.character.kinematic.KinematicCharacter method), 10  
on\_dismount () (badwing.model.Model method), 24  
on\_draw () (badwing.main.MyGame method), 23  
on\_draw () (badwing.scene.Scene method), 26  
on\_draw () (badwing.view.View method), 27  
on\_hide\_view () (badwing.view.View method), 27  
on\_key\_press () (badwing.character.controller.kinematic.KinematicController method), 9  
on\_key\_press () (badwing.characters.skateboard.SkateboardController method), 15  
on\_key\_press () (badwing.controller.Controller method), 20  
on\_key\_press () (badwing.level.level.Level method), 15  
on\_key\_press () (badwing.scene.Scene method), 26  
on\_key\_release () (badwing.character.controller.kinematic.KinematicController method), 9  
on\_key\_release () (badwing.characters.skateboard.SkateboardController method), 15  
on\_key\_release () (badwing.controller.Controller method), 20  
on\_key\_release () (badwing.level.level.Level method), 15  
on\_key\_release () (badwing.scene.Scene method), 26  
on\_mount () (badwing.character.kinematic.KinematicCharacter method), 10  
on\_mount () (badwing.model.Model method), 24  
on\_mouse\_press () (badwing.controller.Controller method), 20  
on\_mouse\_press () (badwing.scene.Scene method), 26  
on\_next\_level () (badwing.player.Player method), 9  
on\_update () (badwing.characters.blob.BlobSprite method), 14  
open () (badwing.view.View method), 28  
open\_dialog () (badwing.scene.Scene method), 27

**P**

Pin  
pause () (badwing.scene.Scene method), 27  
pc () (badwing.level.level.Level property), 16  
pc\_sprite () (badwing.level.level.Level property), 16  
Physics (class in badwing.physics.physics), 18  
physics () (badwing.model.PhysicsModel property), 25  
PhysicsEngine (class in badwing.physics.engine), 17  
PhysicsGroup (class in badwing.model), 24  
PhysicsMeta (class in badwing.physics.physics), 18  
PhysicsModel (class in badwing.model), 24

Player (*class in badwing.player*), 19  
 PlayerCharacter (*class in badwing.characters.pc*), 14  
 Pole (*class in badwing.flag*), 22  
 PolyGeom (*class in badwing.geom*), 23  
 pop\_controller () (*badwing.scene.Scene method*), 27  
 pop\_pc () (*badwing.level.level.Level method*), 16  
 position () (*badwing.brain.Brain property*), 20  
 post\_setup () (*badwing.level.sticker.StickerLevel method*), 16  
 post\_setup () (*badwing.level.tile.TileLevel method*), 16  
 post\_setup () (*badwing.model.Model method*), 24  
 post\_setup () (*badwing.model.PhysicsGroup method*), 24  
 post\_setup () (*badwing.model.PhysicsModel method*), 25  
 post\_setup () (*badwing.scene.Scene method*), 27  
 post\_solve () (*badwing.physics.kinematic.CollisionHandler method*), 17  
 pre\_setup () (*badwing.model.Model method*), 24  
 pre\_setup () (*badwing.scene.Scene method*), 27  
 pre\_solve () (*badwing.physics.kinematic.CollisionHandler method*), 17  
 pre\_solve () (*badwing.physics.kinematic.KinematicDynamicHandler method*), 17  
 pre\_solve () (*badwing.physics.kinematic.KinematicKinematicHandler method*), 17  
 pre\_solve () (*badwing.physics.kinematic.KinematicStaticHandler method*), 18  
 process\_keychange () (*badwing.character.controller.kinematic.KinematicController method*), 9  
 push\_controller () (*badwing.scene.Scene method*), 27  
 push\_pc () (*badwing.level.level.Level method*), 16

**R**

randforward () (*badwing.characters.butterfly.brain.ButterflyBrain method*), 11  
 remove\_shapes () (*badwing.model.PhysicsModel method*), 25  
 resume () (*badwing.scene.Scene method*), 27  
 right () (*badwing.characters.butterfly.brain.ButterflyBrain method*), 11  
 Robot (*class in badwing.characters.robot.robot*), 13  
 Rock (*class in badwing.obstacle*), 25

**S**

Scene (*class in badwing.scene*), 26

separate () (*badwing.physics.kinematic.CollisionHandler method*), 17  
 setup () (*badwing.background.BackgroundLayer method*), 19  
 setup () (*badwing.barrier.BarrierLayer method*), 20  
 setup () (*badwing.characters.butterfly.butterfly.ButterflyFactory method*), 12  
 setup () (*badwing.characters.factory.CharacterFactory method*), 14  
 setup () (*badwing.coin.CoinFactory method*), 20  
 setup () (*badwing.debug.DebugLayer method*), 21  
 setup () (*badwing.dialog.Dialog method*), 21  
 setup () (*badwing.effect.Effect method*), 21  
 setup () (*badwing.flag.FlagFactory method*), 22  
 setup () (*badwing.layer.Layer method*), 23  
 setup () (*badwing.main.MyGame method*), 23  
 setup () (*badwing.model.Model method*), 24  
 setup () (*badwing.obstacle.ObstacleFactory method*), 25  
 setup () (*badwing.physics.dynamic.DynamicPhysics method*), 17  
 setup () (*badwing.physics.engine.PhysicsEngine method*), 17  
 setup () (*badwing.physics.kinematic.KinematicPhysics method*), 17  
 setup () (*badwing.physics.kinematic.KinematicPhysicsEngine method*), 18  
 setup () (*badwing.physics.physics.Physics method*), 18  
 setup () (*badwing.physics.static.StaticPhysics method*), 18  
 setup () (*badwing.scene.Scene method*), 27  
 setup () (*badwing.tile.TileFactory method*), 27  
 setup () (*badwing.view.View method*), 28  
 show\_scene () (*badwing.main.MyGame method*), 23  
 shutdown () (*badwing.scene.Scene method*), 27  
 Skateboard (*class in badwing.characters.skateboard*), 14  
 SkateboardController (*class in badwing.characters.skateboard*), 15  
 Skeleton (*class in badwing.characters.skeleton.skeleton*), 13  
 SkeletonSprite (*class in badwing.characters.skeleton.skeleton*), 13  
 sprite () (*badwing.brain.Brain property*), 20  
 StaticModel (*class in badwing.model*), 25  
 StaticPhysics (*class in badwing.physics.static*), 18  
 StickerLevel (*class in badwing.level.sticker*), 16

**T**

Tile (*class in badwing.tile*), 27  
 TileFactory (*class in badwing.tile*), 27  
 TileLayer (*class in badwing.tile*), 27

TileLevel (*class in badwing.level.tile*), 16  
try\_move () (*badwing.characters.butterfly.brain.ButterflyBrain method*), 11

**U**  
update () (*badwing.brain.Brain method*), 20  
update () (*badwing.character.controller.kinematic.KinematicController method*), 10  
update () (*badwing.characters.butterfly.brain.ButterflyBrain method*), 11  
update () (*badwing.characters.skateboard.Skateboard method*), 15  
update () (*badwing.characters.skateboard.SkateboardController method*), 15  
update () (*badwing.controller.Controller method*), 20  
update () (*badwing.effect.Effect method*), 21  
update () (*badwing.effect.EffectList method*), 21  
update () (*badwing.firework.Firework method*), 21  
update () (*badwing.layer.Layer method*), 23  
update () (*badwing.level.level.Level method*), 16  
update () (*badwing.level.sticker.StickerLevel method*), 16  
update () (*badwing.level.tile.TileLevel method*), 16  
update () (*badwing.main.MyGame method*), 23  
update () (*badwing.model.KinematicModel method*), 24  
update () (*badwing.model.Model method*), 24  
update () (*badwing.particle.AnimatedAlphaParticle method*), 26  
update () (*badwing.physics.dynamic.DynamicPhysics method*), 17  
update () (*badwing.physics.engine.PhysicsEngine method*), 17  
update () (*badwing.physics.kinematic.KinematicPhysics method*), 17  
update () (*badwing.physics.physics.GroupPhysics method*), 18  
update () (*badwing.physics.physics.Physics method*), 18  
update () (*badwing.physics.static.StaticPhysics method*), 18  
update () (*badwing.player.Player method*), 19  
update () (*badwing.scene.Scene method*), 27  
update () (*badwing.tile.Tile method*), 27  
update\_animation () (*badwing.character.sprite.CharacterSprite method*), 10  
update\_animation () (*badwing.characters.butterfly.sprite.ButterflySprite method*), 13  
update\_animation () (*badwing.layer.Layer method*), 23  
update\_brain () (*badwing.model.Model method*), 24

update\_physics () (*badwing.model.Model method*), 24  
update\_physics () (*badwing.model.PhysicsModel method*), 25  
update\_sprite () (*badwing.character.kinematic.KinematicCharacter method*), 10  
update\_sprite () (*badwing.model.Model method*), 24

**V**  
View (*class in badwing.view*), 27

**W**  
Wheel (*class in badwing.characters.skateboard*), 15