# bruhanimate

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### BRUHANIMATE.BRUHUTIL PACKAGE

### 1.1 Submodules

### 1.2 bruhanimate.bruhutil.bruhffer module

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```
class bruhanimate.bruhutil.bruhffer.Buffer(height, width)
```

Bases: object

Class for creating and managing a buffer

```
clear_buffer(x=0, y=0, w=None, h=None, val=' ')
```

Clear a section of this buffer :param x: x position to start the clear :param y: y position to start the clear :param w: width of the section to be cleared :param h: height of the section to be cleared

```
get_buffer_changes(in_buf)
```

Return all the differences between this buffer and buffer that was passed in :param in\_buf: buffer to compare this buffer to

```
get_char(x, y)
```

Return the value at the given location

```
grab_slice(x, y, width)
```

Grabs a part of a row from this buffer :param x: column position to start grabbing :param y: row position to start grabbing :param width: number of chracters to grab

### height()

```
put_at(x, y, text, transparent=False)
```

Put text at a given x, y coordinate in the buffer :param x: column position to start placing the text :param y: row position to start placing the text :param text: the text to be placed

```
put_at_center(y, text, transparent=False)
```

Puts the given text in the center of the row given by y. :param y: row to place the text. :param text: text to write to the buffers.

```
put\_char(x, y, val, transparent=False)
```

Put the value at the given location

```
scroll(shift)
```

Scrolls the buffer up or down a number of lines denoted by the shift value. '-' -> scroll down, '+' -> scroll up :param shift: amount to shift up or down

```
shift(shift)
```

Shift the entire buffer to the right by the value denoted by shift :param shift: amount to shift the row by

```
shift_line(y, shift)
```

Shift the given line to the right by the value denoted by shift. :param y: index of the row to shift :param shift: amount to shift the row by

```
sync_over_top(in_buf)
```

Apply non-none values over top this buffer from the in\_buffer :param in\_buf: buffer to take non-none values from

```
sync_with(in_buf)
```

Sync this buffer with the given buffer :param in\_buf: buffer to be applied to this buffer

width()

### 1.3 bruhanimate.bruhutil.bruhscreen module

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class bruhanimate.bruhutil.bruhscreen.Screen(stdout, stdin, old\_out, old\_in)

```
Bases: object
```

Class for creating and managing a terminal screen in a WINDOWS OS terminal

```
KEY_ADD = -411

KEY_BACK = -300

KEY_BACK_TAB = -302

KEY_CAPS_LOCK = -500

KEY_CONTROL = -601
```

KEY DECIMAL = -413

 $KEY_DELETE = -102$ 

 $KEY_DIVIDE = -414$ 

 $KEY_DOWN = -206$ 

 $KEY\_END = -201$ 

 $KEY\_ESCAPE = -1$ 

 $KEY_F1 = -2$ 

 $KEY_F10 = -11$ 

 $KEY_F11 = -12$ 

 $KEY_F12 = -13$ 

 $KEY_F13 = -14$ 

 $KEY_F14 = -15$ 

 $KEY_F15 = -16$ 

 $KEY_F16 = -17$ 

 $KEY_F17 = -18$ 

 $KEY_F18 = -19$ 

 $KEY_F19 = -20$ 

 $KEY_F2 = -3$ 

 $KEY_F20 = -21$ 

 $KEY_F21 = -22$ 

 $KEY_F22 = -23$ 

 $KEY_F23 = -24$ 

 $KEY_F24 = -25$ 

 $KEY_F3 = -4$ 

 $KEY_F4 = -5$ 

 $KEY_F5 = -6$ 

 $KEY_F6 = -7$ 

 $KEY_F7 = -8$ 

 $KEY_F8 = -9$ 

 $KEY_F9 = -10$ 

 $KEY\_HOME = -200$ 

 $KEY_INSERT = -101$ 

```
KEY_LEFT = -203
KEY\_MENU = -602
KEY_MULTIPLY = -410
KEY_NUMPAD0 = -400
KEY_NUMPAD1 = -401
KEY_NUMPAD2 = -402
KEY_NUMPAD3 = -403
KEY_NUMPAD4 = -404
KEY_NUMPAD5 = -405
KEY_NUMPAD6 = -406
KEY_NUMPAD7 = -407
KEY_NUMPAD8 = -408
KEY_NUMPAD9 = -409
KEY_NUM_LOCK = -501
KEY_PAGE_DOWN = -208
KEY_PAGE_UP = -207
KEY_PRINT_SCREEN = -100
KEY_RIGHT = -205
KEY\_SCROLL\_LOCK = -502
KEY\_SHIFT = -600
KEY_SUBTRACT = -412
KEY_TAB = -301
KEY_UP = -204
clear()
close(restore=True)
get_event()
    Check for any event without waiting.
has_resized()
classmethod open()
print_at(text, x, y, width)
print_center(text, y, width)
```

```
set\_title(\textit{title: str}) \rightarrow None
classmethod show(\textit{function, args=None})
wait\_for\_input(\textit{timeout: int}) \rightarrow None
```

### 1.4 bruhanimate.bruhutil.images module

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```
bruhanimate.bruhutil.images.get_image(name)
```

Function to return one of the premade images :param name: name of the image to get

```
bruhanimate.bruhutil.images.text_to_image(text, font='standard', padding_top_bottom=0, padding_left_right=0)
```

Function to take a piece of text and turn it into an image that can be used. :param text: text to turn into an image :param font: pyfiglet font to use :param padding\_top\_bottom: padding to apply to the generated image :param padding\_left\_right: padding to apply to the generate image

### 1.5 bruhanimate.bruhutil.utils module

bruhanimate.bruhutil.utils.sleep(s)

### 1.6 Module contents

```
{\bf class} \ bruhanimate.bruhutil.{\bf Buffer}({\it height, width})
```

Bases: object

Class for creating and managing a buffer

```
clear_buffer(x=0, y=0, w=None, h=None, val=' ')
```

Clear a section of this buffer :param x: x position to start the clear :param y: y position to start the clear :param w: width of the section to be cleared :param h: height of the section to be cleared

```
get_buffer_changes(in_buf)
```

Return all the differences between this buffer and buffer that was passed in :param in\_buf: buffer to compare this buffer to

```
get_char(x, y)
```

Return the value at the given location

```
grab_slice(x, y, width)
```

Grabs a part of a row from this buffer :param x: column position to start grabbing :param y: row position to start grabbing :param width: number of chracters to grab

```
height()
```

```
put_at(x, y, text, transparent=False)
```

Put text at a given x, y coordinate in the buffer :param x: column position to start placing the text :param y: row position to start placing the text :param text: the text to be placed

```
put_at_center(y, text, transparent=False)
```

Puts the given text in the center of the row given by y. :param y: row to place the text. :param text: text to write to the buffers.

```
put_char(x, y, val, transparent=False)
```

Put the value at the given location

```
scroll(shift)
```

Scrolls the buffer up or down a number of lines denoted by the shift value. '-' -> scroll down, '+' -> scroll up :param shift: amount to shift up or down

```
shift(shift)
```

Shift the entire buffer to the right by the value denoted by shift :param shift: amount to shift the row by

```
shift_line(y, shift)
```

Shift the given line to the right by the value denoted by shift. :param y: index of the row to shift :param shift: amount to shift the row by

```
sync_over_top(in_buf)
```

Apply non-none values over top this buffer from the in\_buffer :param in\_buf: buffer to take non-none values from

```
sync_with(in_buf)
```

Sync this buffer with the given buffer :param in\_buf: buffer to be applied to this buffer

width()

```
class bruhanimate.bruhutil.Screen(stdout, stdin, old_out, old_in)
```

Bases: object

Class for creating and managing a terminal screen in a WINDOWS OS terminal

```
KEY\_ADD = -411
```

 $KEY_BACK = -300$ 

 $KEY_BACK_TAB = -302$ 

 $KEY\_CAPS\_LOCK = -500$ 

 $KEY\_CONTROL = -601$ 

 $KEY_DECIMAL = -413$ 

KEY DELETE = -102

 $KEY_DIVIDE = -414$ 

 $KEY_DOWN = -206$ 

 $KEY\_END = -201$ 

 $KEY\_ESCAPE = -1$ 

 $KEY_F1 = -2$ 

 $KEY_F10 = -11$ 

 $KEY_F11 = -12$ 

 $KEY_F12 = -13$ 

 $KEY_F13 = -14$ 

 $KEY_F14 = -15$ 

 $KEY_F15 = -16$ 

 $KEY_F16 = -17$ 

 $KEY_F17 = -18$ 

 $KEY_F18 = -19$ 

 $KEY_F19 = -20$ 

 $KEY_F2 = -3$ 

 $KEY_F20 = -21$ 

 $KEY_F21 = -22$ 

 $KEY_F22 = -23$ 

 $KEY_F23 = -24$ 

 $KEY_F24 = -25$ 

 $KEY_F3 = -4$ 

 $KEY_F4 = -5$ 

 $KEY_F5 = -6$ 

 $KEY_F6 = -7$ 

 $KEY_F7 = -8$ 

 $KEY_F8 = -9$ 

 $KEY_F9 = -10$ 

 $KEY\_HOME = -200$ 

 $KEY_INSERT = -101$ 

 $KEY_LEFT = -203$ 

 $KEY\_MENU = -602$ 

 $KEY_MULTIPLY = -410$ 

1.6. Module contents

```
KEY_NUMPAD0 = -400
KEY_NUMPAD1 = -401
KEY_NUMPAD2 = -402
KEY_NUMPAD3 = -403
KEY_NUMPAD4 = -404
KEY_NUMPAD5 = -405
KEY_NUMPAD6 = -406
KEY_NUMPAD7 = -407
KEY_NUMPAD8 = -408
KEY_NUMPAD9 = -409
KEY_NUM_LOCK = -501
KEY_PAGE_DOWN = -208
KEY_PAGE_UP = -207
KEY_PRINT_SCREEN = -100
KEY_RIGHT = -205
KEY\_SCROLL\_LOCK = -502
KEY\_SHIFT = -600
KEY_SUBTRACT = -412
KEY\_TAB = -301
KEY_UP = -204
clear()
close(restore=True)
get_event()
    Check for any event without waiting.
has_resized()
classmethod open()
print_at(text, x, y, width)
print_center(text, y, width)
set\_title(title: str) \rightarrow None
classmethod show(function, args=None)
wait\_for\_input(\mathit{timeout: int}) \rightarrow None
```

bruhanimate.bruhutil.get\_image(name)

Function to return one of the premade images :param name: name of the image to get

bruhanimate.bruhutil.sleep(s)

bruhanimate.bruhutil.text\_to\_image(text, font='standard', padding\_top\_bottom=0, padding\_left\_right=0)

Function to take a piece of text and turn it into an image that can be used. :param text: text to turn into an image :param font: pyfiglet font to use :param padding\_top\_bottom: padding to apply to the generated image :param padding\_left\_right: padding to apply to the generate image

1.6. Module contents

**CHAPTER** 

**TWO** 

### **BRUHANIMATE.BRUHEFFECT PACKAGE**

### 2.1 Submodules

# 2.2 bruhanimate.bruheffect.audio\_effect module

### 2.3 bruhanimate.bruheffect.base effect module

set\_orientation(orientation)

```
class bruhanimate.bruheffect.base_effect.BaseEffect(buffer, background)
    Bases: object
    Class for keeping track of an effect, and updataing it's buffer
    abstract render_frame(frame_number)
    To be defined by each effect
```

# 2.4 bruhanimate.bruheffect.chatbot\_effect module

```
class bruhanimate.bruheffect.chatbot_effect.ChatbotEffect(screen: Screen, buffer, back_buffer,
                                                                     background: str = '')
     Bases: BaseEffect
     place_all_keys()
     render_frame(frame_number)
          To be defined by each effect
     scroll_keys(shift: int = 1)
     set_avatar_properties(size: int)
     set_chatbot_blink_halt(halt: int)
     set_chatbot_cursor_colors(color_one: int | str, color_two: int | str)
     set_chatbot_print_halt(halt: int)
     set_chatbot_properties(interface: str | None, model: str, user: str | None = None, client: OpenAI |
                                 AzureOpenAI \mid None = None, use\_message\_history: bool = False,
                                 message\_history\_cap: int = 5)
     set_chatbot_stats(show: bool = False)
     set_chatbot_text_gradient(gradient: list[int | str], mul: int)
     set_chatbot_user_colors (chatbot_text_color: int | str | None = None, chatbot_background_color: int | str
                                  | None = None, chatbot\_avatar\_color: int | str | None = None,
                                  chatbot_avatar_text_color: int | str | None = None, user_text_color: int | str |
                                  None = None, user\_background\_color: int | str | None = None,
                                  user_avatar_color: int | str | None = None, user_avatar_text_color: int | str |
                                  None = None
     set_divider_flag(divider: bool, divider_character: str = '-')
     set_gradient_noise_halts(char_halt: int | None = None, color_halt: int | None = None)
     set_second_effect(effect: str)
class bruhanimate.bruheffect.chatbot_effect.GradientNoise(x, y, length, char_halt=1, color_halt=1,
                                                                     gradient_length=1)
     Bases: object
     generate(frame_number: int)
     mark_done()
     update_gradient(gradient)
class bruhanimate.bruheffect.chatbot_effect.Key(character, representation, value, x, y)
     Bases: object
class bruhanimate.bruheffect.chatbot_effect.Loading(animate_part: GradientNoise)
     Bases: object
```

```
mark_done()
     update(frame: int)
class bruhanimate.bruheffect.chatbot_effect.OllamaApiCaller(model: str, use_message_history:
                                                                         bool = False, message_history_cap:
                                                                         int = 5
     Bases: object
     chat (message: str, user: str | None, previous_messages: list[str] | None = None) \rightarrow str
class bruhanimate.bruheffect.chatbot_effect.OpenAiCaller(client: OpenAI | AzureOpenAI, model:
                                                                     str, use\_message\_history: bool = False,
                                                                     message\_history\_cap: int = 5)
     Bases: object
     chat(message: str, user: str \mid None) \rightarrow str
class bruhanimate.bruheffect.chatbot_effect.StringStreamer(x: int, y: int, text: str, start_frame: int,
                                                                        halt: int = 1)
     Bases: object
     generate(frame: int)
```

# 2.5 bruhanimate.bruheffect.draw\_lines\_effect module

```
Bases: BaseEffect

add_line(start_point, end_point)

render_frame(frame_number)

To be defined by each effect

class bruhanimate.bruheffect.draw_lines_effect.Line(start_point, end_point)

Bases: object

get_points()

update_points(start_point, end_point)
```

# 2.6 bruhanimate.bruheffect.game\_of\_life\_effect module

Bases: BaseEffect

Effect ot simulate Conway's Game of Life

```
render_frame(frame_number)
    Function to render the next frame of the GOL effect

update_decay(decay, color_type='GREYSCALE', scale='random')
    Function to enable to decay and select the color map :param decay: True / False :param color_type: color map for the effect

update_rules(life_rule, death_rule)
```

### 2.7 bruhanimate.bruheffect.matrix\_effect module

```
class bruhanimate.bruheffect.matrix_effect.MatrixEffect(buffer, background,
                                                                   chracter\_halt\_range=(1, 2),
                                                                   color\_halt\_range=(1, 2),
                                                                   character_randomness_one=0.7,
                                                                   character randomness two=0.6,
                                                                   color\_randomness=0.5,
                                                                   gradient_length=1)
     Bases: BaseEffect
     Effect to mimic the cliche coding backgroud with falling random characters
     get_gradient()
     render_frame(frame_number)
          Renders the next frame for the Matrix effect into the effect buffer
     set_matrix_gradient(gradient)
     set_matrix_properties(chacter_halt_range=(1, 2), color_halt_range=(1, 2),
                                character_randomness_one=0.7, character_randomness_two=0.6,
                                color_randomness=0.5, gradient_length=1)
```

# 2.8 bruhanimate.bruheffect.noise\_effect module

Function to render the next frame of the Noise effect

#### update\_color(color, characters)

Function to enable / disable color for the effect :param color: True / False :param character: True / False to make characters visable

#### update\_intensity(intensity)

Function to update the intensity of the effect :param intensity: new intensity

# 2.9 bruhanimate.bruheffect.offset\_effect module

class bruhanimate.bruheffect.offset\_effect.OffsetEffect(buffer, background, direction='right')

Bases: BaseEffect

Class for generating an offset-static backgorund. :new-param direction: which way the offset should go.

render\_frame(frame number)

Function to render the next frame of the Offset effect

update\_direction(direction)

Function to update the direction of the offset :param direction: East / West

### 2.10 bruhanimate.bruheffect.plasma\_effect module

```
class bruhanimate.bruheffect.plasma_effect.PlasmaEffect(buffer, background)
```

Bases: BaseEffect

Function to generate a plasma like effect

 $\mathbf{func}(x, y, a, b, n)$ 

Helper function to calculate the plasma value given the four plasma values

render\_frame(frame number)

Function to render the next frame of the Plasma Effect

shuffle\_plasma\_values()

Function to generate a new-random set of plasma values

update\_background(background)

Update the background character(s):param background: the new background

update\_color(colors)

Function to update the colors used

update\_color\_properties(color, characters=True, random\_color=False)

Function to update the color properties. random\_color overrules other functions like update greyscale size and update color :param color: True / False to enable color :param characters: True / False to show the characters :param random\_color: True / False to generate random colors

update\_grey\_scale\_size(size)

Function to change the size of the grey scale

update\_info\_visibility(visible)

Function to enable or disable info about the effect

 $update_plasma_values(a=43, b=18, c=19, d=19)$ 

Function to set the plasma values

### 2.11 bruhanimate.bruheffect.rain\_effect module

Bases: BaseEffect

Effect to emmulate the look of rain

render\_frame(frame number)

Function to render the next frame of the Rain Effect

**update\_collision**(img\_start\_x, img\_start\_y, img\_width, img\_height, collision, smart\_transparent=False, image\_buffer=None)

Function to set whether or not to visually see the rain collide with the ground or images if they are present :param img\_start\_x: where the image starts on the screen :param img\_start\_y: where the image starts on the screen :param img\_width: the width of the image :param img\_height: the height of the image :param collision: update collision variable :param smart\_transparent: update smart\_transparent :param image\_buffer: the buffer that contains the image

```
update_intensity(intensity)
```

Function to update the intensity of the rain :param intensity: intentisy value

```
update_multiplier(val)
```

Update the multiplier value that relates to shift amount :param val: value to set the multiplier to

update\_swells(swells)

Function to set whether the intensity should evolve on it's own :param swells: True / False

update\_wind\_direction(direction)

Update the direction of the rain :param direction: direction for the rain to fall (east, west, none)

### 2.12 bruhanimate.bruheffect.snow\_effect module

Bases: BaseEffect

render\_frame(frame number)

To be defined by each effect

show\_info(show\_info: bool)

update\_collision(img\_start\_x, img\_start\_y, img\_width, img\_height, collision, image\_buffer=None)

Function to set whether or not to visually see the snow collide with the ground or images if they are present :param img\_start\_x: where the image starts on the screen :param img\_start\_y: where the image starts on the screen :param img\_width: the width of the image :param img\_height: the height of the image :param collision: update collision variable

## 2.13 bruhanimate.bruheffect.star\_effect module

```
class bruhanimate.bruheffect.star_effect.StarEffect(buffer, background, color_type='GREYSCALE')
    Bases: NoiseEffect

Class for rendering out a blinking star effect. This is just a Noise effect with a predefined intensity. Ideally the background would be '' for the best effect, but the choice is yours.

render_frame(frame_number)
    Function to update the next frame of the Stars effect

update_background(background)
    Function to update the background of the efffect :param background: the new background

update_color_type(color_type)
    Function to update the color of the stars :param color_type: color map
```

# 2.14 bruhanimate.bruheffect.static\_effect module

```
class bruhanimate.bruheffect.static_effect.StaticEffect(buffer, background)
    Bases: BaseEffect
    Class for generating a static background.
    render_frame(frame_number)
        Renders the background to the screen
```

# 2.15 bruhanimate.bruheffect.twinkle\_effect module

```
class bruhanimate.bruheffect.twinkle_effect.TWINKLE_SPEC(char, value)
    Bases: object
    copy()
    next()

class bruhanimate.bruheffect.twinkle_effect.TwinkleEffect(buffer, background)
    Bases: BaseEffect
    render_frame(frame_number)
        To be defined by each effect
```

### 2.16 Module contents

```
generate_even_ranges(groups, start, end)
     map_bands_to_range(N)
     process_audio(data, frame_count, time_info, status)
     render_frame(frame_number)
          To be defined by each effect
     set_audio_gradient(gradient=[232, 233, 235, 237, 239, 241, 243, 245, 247, 249, 251, 253, 255],
                            mode='extend')
     set_audio_properties(num_bands=24, audio_halt=10, use_gradient=True, non_gradient_color=27)
     set_orientation(orientation)
class bruhanimate.bruheffect.BaseEffect(buffer, background)
     Bases: object
     Class for keeping track of an effect, and updataing it's buffer
     abstract render_frame(frame_number)
          To be defined by each effect
class bruhanimate.bruheffect.ChatbotEffect(screen: Screen, buffer, back_buffer, background: str = '')
     Bases: BaseEffect
     place_all_keys()
     render_frame(frame number)
          To be defined by each effect
     scroll_keys(shift: int = 1)
     set_avatar_properties(size: int)
     set_chatbot_blink_halt(halt: int)
     set_chatbot_cursor_colors(color_one: int | str, color_two: int | str)
     set_chatbot_print_halt(halt: int)
     set_chatbot_properties(interface: str | None, model: str, user: str | None = None, client: OpenAI |
                                 AzureOpenAI \mid None = None, use\_message\_history: bool = False,
                                 message\_history\_cap: int = 5)
     set_chatbot_stats(show: bool = False)
     set_chatbot_text_gradient(gradient: list[int | str], mul: int)
     set_chatbot_user_colors (chatbot_text_color: int | str | None = None, chatbot_background_color: int | str
                                  | None = None, chatbot_avatar_color: int | str | None = None,
                                  chatbot_avatar_text_color: int | str | None = None, user_text_color: int | str |
                                  None = None, user\_background\_color: int | str | None = None,
                                  user_avatar_color: int | str | None = None, user_avatar_text_color: int | str |
                                  None = None)
     set_divider_flag(divider: bool, divider character: str = '-')
```

```
set_gradient_noise_halts(char_halt: int | None = None, color_halt: int | None = None)
     set_second_effect(effect: str)
class bruhanimate.bruheffect.DrawLinesEffect(buffer, background, char=None, thin=False)
     Bases: BaseEffect
     add_line(start_point, end_point)
     render_frame(frame_number)
          To be defined by each effect
class bruhanimate.bruheffect.GameOfLifeEffect(buffer, background, decay=False, color=False,
                                                     color type=None, scale='random')
     Bases: BaseEffect
     Effect ot simulate Conway's Game of Life
     render_frame(frame_number)
          Function to render the next frame of the GOL effect
     update_decay(decay, color_type='GREYSCALE', scale='random')
          Function to enable to decay and select the color map :param decay: True / False :param color type: color
          map for the effect
     update_rules(life_rule, death_rule)
class bruhanimate.bruheffect.GradientNoise(x, y, length, char_halt=1, color_halt=1, gradient_length=1)
     Bases: object
     generate(frame_number: int)
     mark_done()
     update_gradient(gradient)
class bruhanimate.bruheffect.Key(character, representation, value, x, y)
     Bases: object
class bruhanimate.bruheffect.Line(start_point, end_point)
     Bases: object
     get_points()
     update_points(start_point, end_point)
class bruhanimate.bruheffect.Loading(animate_part: GradientNoise)
     Bases: object
     mark_done()
     update(frame: int)
class bruhanimate.bruheffect.MatrixEffect(buffer, background, chracter_halt_range=(1, 2),
                                                 color_halt_range=(1, 2), character_randomness_one=0.7,
                                                 character_randomness_two=0.6, color_randomness=0.5,
                                                 gradient_length=1)
     Bases: BaseEffect
     Effect to mimic the cliche coding backgroud with falling random characters
```

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```
get_gradient()
     render_frame(frame_number)
           Renders the next frame for the Matrix effect into the effect buffer
     set_matrix_gradient(gradient)
     set_matrix_properties(chacter_halt_range=(1, 2), color_halt_range=(1, 2),
                                 character_randomness_one=0.7, character_randomness_two=0.6,
                                 color_randomness=0.5, gradient_length=1)
class bruhanimate.bruheffect.NoiseEffect(buffer, background, intensity=200, color=False)
     Bases: BaseEffect
     Class for generating noise. :param intensity: randomness for the noise, higher the value the slower the effect (due
     to computation).
           Will be a value 1 - 999
           Parameters
               color – whether or not ro color the noise
     render_frame(frame_number)
           Function to render the next frame of the Noise effect
     update_color(color, characters)
           Function to enable / disable color for the effect :param color: True / False :param character: True / False to
           make characters visable
     update_intensity(intensity)
           Function to update the intensity of the effect :param intensity: new intensity
class bruhanimate.bruheffect.OffsetEffect(buffer, background, direction='right')
     Bases: BaseEffect
     Class for generating an offset-static backgorund. :new-param direction: which way the offset should go.
     render_frame(frame number)
           Function to render the next frame of the Offset effect
     update_direction(direction)
           Function to update the direction of the offset :param direction: East / West
class bruhanimate.bruheffect.PlasmaEffect(buffer, background)
     Bases: BaseEffect
     Function to generate a plasma like effect
     \mathbf{func}(x, y, a, b, n)
           Helper function to calculate the plasma value given the four plasma values
     render_frame(frame number)
           Function to render the next frame of the Plasma Effect
     shuffle_plasma_values()
           Function to generate a new-random set of plasma values
     update_background(background)
           Update the background character(s) :param background: the new background
```

```
update_color(colors)
```

Function to update the colors used

```
update_color_properties(color, characters=True, random_color=False)
```

Function to update the color properties. random\_color overrules other functions like update greyscale size and update color :param color: True / False to enable color :param characters: True / False to show the characters :param random\_color: True / False to generate random colors

```
update_grey_scale_size(size)
```

Function to change the size of the grey scale

```
update_info_visibility(visible)
```

Function to enable or disable info about the effect

```
update_plasma_values(a=43, b=18, c=19, d=19)
```

Function to set the plasma values

Bases: BaseEffect

Effect to emmulate the look of rain

```
render_frame(frame number)
```

Function to render the next frame of the Rain Effect

**update\_collision**(img\_start\_x, img\_start\_y, img\_width, img\_height, collision, smart\_transparent=False, image\_buffer=None)

Function to set whether or not to visually see the rain collide with the ground or images if they are present :param img\_start\_x: where the image starts on the screen :param img\_start\_y: where the image starts on the screen :param img\_width: the width of the image :param img\_height: the height of the image :param collision: update collision variable :param smart\_transparent: update smart\_transparent :param image buffer: the buffer that contains the image

```
update_intensity(intensity)
```

Function to update the intensity of the rain :param intensity: intentisy value

```
update_multiplier(val)
```

Update the multiplier value that relates to shift amount :param val: value to set the multiplier to

```
update_swells(swells)
```

Function to set whether the intensity should evolve on it's own :param swells: True / False

```
update_wind_direction(direction)
```

Update the direction of the rain :param direction: direction for the rain to fall (east, west, none)

Bases: BaseEffect
render\_frame(frame\_number)
To be defined by each effect
show\_info(show info: bool)

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```
Function to set whether or not to visually see the snow collide with the ground or images if they are present
           :param img start x: where the image starts on the screen :param img start y: where the image starts on
           the screen :param img width: the width of the image :param img height: the height of the image :param
           collision: update collision variable
class bruhanimate.bruheffect.StarEffect(buffer, background, color_type='GREYSCALE')
     Bases: NoiseEffect
     Class for rendering out a blinking star effect. This is just a Noise effect with a predefined intensity. Ideally the
     background would be ' ' for the best effect, but the choice is yours.
     render_frame(frame_number)
          Function to update the next frame of the Stars effect
     update_background(background)
           Function to update the background of the efffect :param background: the new background
     update_color_type(color_type)
           Function to update the color of the stars :param color_type: color map
class bruhanimate.bruheffect.StaticEffect(buffer, background)
     Bases: BaseEffect
     Class for generating a static background.
     render_frame(frame number)
           Renders the background to the screen
class bruhanimate.bruheffect.StringStreamer(x: int, y: int, text: str, start_frame: int, halt: int = 1)
     Bases: object
     generate(frame: int)
class bruhanimate.bruheffect.TWINKLE_SPEC(char, value)
     Bases: object
     copy()
     next()
class bruhanimate.bruheffect.TwinkleEffect(buffer, background)
     Bases: BaseEffect
     render_frame(frame number)
           To be defined by each effect
```

**update\_collision**(*img\_start\_x*, *img\_start\_y*, *img\_width*, *img\_height*, *collision*, *image\_buffer=None*)

**CHAPTER** 

**THREE** 

### BRUHANIMATE.BRUHRENDERER PACKAGE

### 3.1 Submodules

### 3.2 bruhanimate.bruhrenderer.background color renderer module

```
class bruhanimate.bruhrenderer.background_color_renderer.BackgroundColorRenderer(screen,
```

```
frames,
time, img,
on_color_code,
ef-
fect_type='static',
back-
ground='
', transpar-
ent=False)
```

Bases: BaseRenderer

render\_img\_frame(frame\_number)

### 3.3 bruhanimate.bruhrenderer.base renderer module

```
class bruhanimate.bruhrenderer.base_renderer.BaseRenderer(screen: Screen, frames: int = 100, time:

float = 0.1, effect\_type: str = 'static',

background: str = '', transparent: bool

= False, collision: bool = False)
```

Bases: object

Defines the base methods, abstract methods, and base attributes for the render class, is an Effect Only Renderer

#### push\_front\_to\_screen()

Pushes changes between the back\_buffer and front\_buffer and applies them to the screen.

#### **Parameters**

**None** – This method does not take any parameters.

#### **Return None**

This method does not return anything.

#### render\_exit()

Renders out the exit prompt to the screen.

#### abstract render\_frame()

To be defined by each renderer

```
run(end_message=True)
```

Updates the image\_buffer and effect\_buffer. Then the image\_buffer is applied over top the effect\_buffer and stored into the back\_buffer. After the front\_buffer is rendered to the screen, the front\_buffer is synced with the back\_buffer. Why? So the effect and image, and there associated calculations can be done independently.

```
update_collision(collision)
```

Method for updating the collision for the rain effect

```
update_exit_stats(msg1=None, msg2=None, wipe=None, x\_loc=None, y\_loc=None, centered=False)
```

Set the exit messages for when the animation finishes :param msg1: primary message :param msg2: secondary message :param wipe: whether to clear the buffer :param  $x_loc$ : where to put the message along the xaxis :param  $y_loc$ : where to put the message along the yaxis :param centered: whether or not the message should be centered

```
update_smart_transparent(smart_transparent)
```

Enable / Disable the smart transparency effect :param smart\_transparent: True / False

bruhanimate.bruhrenderer.base\_renderer.sleep(s)

### 3.4 bruhanimate.bruhrenderer.center\_renderer module

Bases: BaseRenderer

A renderer to load an image in the center of the screen. Updates the image\_buffer only

```
render_img_frame(frame_number)
```

Renders out the image to the center of the screen, if there is no image passed into the renderer then the background is rendered on it's own

### 3.5 bruhanimate.bruhrenderer.effect\_renderer module

```
class bruhanimate.bruhrenderer.effect_renderer.EffectRenderer(screen: Screen, frames: int = 100, time: float = 0.1, effect\_type: str = 'static', background: str = '', transparent: bool = False)
```

Bases: BaseRenderer

Class for rendering the Effect and only the Effect

```
render_effect_frame(frame_number: int)
```

We only need to render the effect, so we just call the effects render frame method to update the effect buffer

```
run(end\_message: bool = True)
```

Generate the next effect frame and sync it with the back / front buffer

# 3.6 bruhanimate.bruhrenderer.focus\_renderer module

Bases: BaseRenderer

A Renderer that takes an image and randomly spreads the characters around the screen. The characters are then pulled to the middle of the screen

```
render_img_frame(frame_number)
```

Renders the next image frame into the image buffer

solved(end\_state)

Function that determines if the image has been moved back to its original shape

update\_reverse(reverse, start\_reverse)

Function to update whether or not to reverse the Focus :param reverse: True / False

update\_start\_frame(frame\_number)

Updates the frame at which the Focus Effect should start :param frame\_number: Frame to start

### 3.7 bruhanimate.bruhrenderer.pan\_renderer module

Bases: BaseRenderer

A renderer to pan an image across the screen. Update the image\_buffer only.

render\_horizontal\_frame(frame\_number)

Renders the next image frame for a horizontal pan

render\_img\_frame(frame\_number)

Renders out the next frame of the pan animation, if there is no image passed into the renderer then the background is rendered on it's own

#### 3.8 Module contents

Bases: BaseRenderer

render\_img\_frame(frame\_number)

```
class bruhanimate.bruhrenderer.BaseRenderer(screen: Screen, frames: int = 100, time: float = 0.1, effect\_type: str = 'static', background: str = '', transparent: bool = False, collision: bool = False)
```

Bases: object

Defines the base methods, abstract methods, and base attributes for the render class, is an Effect Only Renderer

#### push\_front\_to\_screen()

Pushes changes between the back buffer and front buffer and applies them to the screen.

#### **Parameters**

**None** – This method does not take any parameters.

#### Return None

This method does not return anything.

#### render\_exit()

Renders out the exit prompt to the screen.

#### abstract render\_frame()

To be defined by each renderer

```
run(end_message=True)
```

Updates the image\_buffer and effect\_buffer. Then the image\_buffer is applied over top the effect\_buffer and stored into the back\_buffer. After the front\_buffer is rendered to the screen, the front\_buffer is synced with the back\_buffer. Why? So the effect and image, and there associated calculations can be done independently.

#### update\_collision(collision)

Method for updating the collision for the rain effect

```
update_exit_stats(msg1=None, msg2=None, wipe=None, x loc=None, y loc=None, centered=False)
```

Set the exit messages for when the animation finishes: param msg1: primary message: param msg2: secondary message: param wipe: whether to clear the buffer: param x\_loc: where to put the message along the xaxis: param y\_loc: where to put the message along the yaxis: param centered: whether or not the message should be centered

#### update\_smart\_transparent(smart\_transparent)

Enable / Disable the smart transparency effect :param smart\_transparent: True / False

```
class bruhanimate.bruhrenderer.CenterRenderer(screen: Screen, img: list[str], frames: int = 100, time:
float = 0.1, effect\_type: str = 'static', background: str = '
', transparent: bool = False)
```

Bases: BaseRenderer

A renderer to load an image in the center of the screen. Updates the image\_buffer only

```
render_img_frame(frame_number)
```

Renders out the image to the center of the screen, if there is no image passed into the renderer then the background is rendered on it's own

```
class bruhanimate.bruhrenderer.EffectRenderer(screen: Screen, frames: int = 100, time: float = 0.1, effect\_type: str = 'static', background: str = '', transparent: bool = False)
```

Bases: BaseRenderer

Class for rendering the Effect and only the Effect

```
render_effect_frame(frame_number: int)
```

We only need to render the effect, so we just call the effects render frame method to update the effect buffer

```
run(end_message: bool = True)
```

Generate the next effect frame and sync it with the back / front buffer

class bruhanimate.bruhrenderer.FocusRenderer(screen, frames, time, img, effect\_type='static',

```
background='', transparent=False, start_frame=0, reverse=False, start_reverse=None, loop=True)
```

Bases: BaseRenderer

A Renderer that takes an image and randomly spreads the characters around the screen. The characters are then pulled to the middle of the screen

```
render_img_frame(frame number)
```

Renders the next image frame into the image buffer

```
solved(end_state)
```

Function that determines if the image has been moved back to its original shape

```
update_reverse(reverse, start_reverse)
```

Function to update whether or not to reverse the Focus :param reverse: True / False

```
update_start_frame(frame_number)
```

Updates the frame at which the Focus Effect should start :param frame\_number: Frame to start

```
\textbf{class} \ \ bruhanimate.bruhrenderer. \textbf{PanRenderer} (\textit{screen: Screen}, \textit{img: list[str]}, \textit{frames: int, time: float,}
```

```
effect_type: str = 'static', background: str = ' ', transparent: bool = False, direction: str = 'h', shift_rate: int = 1, loop: bool = False)
```

Bases: BaseRenderer

A renderer to pan an image across the screen. Update the image\_buffer only.

```
render_horizontal_frame(frame_number)
```

Renders the next image frame for a horizontal pan

```
render_img_frame(frame_number)
```

Renders out the next frame of the pan animation, if there is no image passed into the renderer then the background is rendered on it's own

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