Game

- ☐ WIDTH: int
- ☐ HEIGHT: int
- ☐ FPS: int
- ☐ PLAYER_VEL: int
- ☐ window: pygame.Surface
- ☐ offset_x: int
- ☐ scroll_area_width: int
- ☐ clock: pygame.time.Clock
- ☐ background: list
- ☐ bg_image: pygame.Surface
- ☐ player: Player
- ☐ objects: list

- ● __init__(window: pygame.Surface)
- ● get_background(name: str): tuple
- ● draw(): void
- ● handle_vertical_collision(player: Player, objects: list, dy: int): list
- ● collide(player: Player, objects: list, dx: int): Object
- ● handle_move(player: Player, objects: list): void
- ● main(): void

contains   *contains*   *contains*

Player

- ☐ COLOR: tuple
- ☐ GRAVITY: int
- ☐ SPRITES: dict
- ☐ ANIMATION_DELAY: int
- ☐ rect: pygame.Rect
- ☐ x_vel: int
- ☐ y_vel: int
- ☐ mask: pygame.mask.Mask
- ☐ direction: str
- ☐ animation_count: int
- ☐ fall_count: int
- ☐ jump_count: int
- ☐ hit: bool
- ☐ hit_count: int
- ☐ sprite: pygame.Surface

- ● jump(): void
- ● move(dx: int, dy: int): void
- ● make_hit(): void
- ● move_left(vel: int): void
- ● move_right(vel: int): void
- ● loop(fps: int): void
- ● landed(): void
- ● hit_head(): void
- ● update_sprite(): void
- ● update(): void
- ● draw(win: pygame.Surface, offset_x: int): void

Block

- «extends» Object
- ☐ block: pygame.Surface

- ● __init__(x: int, y: int, size: int)

Fire

- «extends» Object
- ☐ ANIMATION_DELAY: int
- ☐ fire: dict
- ☐ animation_count: int
- ☐ animation_name: str

- ● __init__(x: int, y: int, width: int, height: int)
- ● on(): void
- ● off(): void
- ● loop(): void

contains

inherits   *inherits*   *inherits*

Object

- ☐ rect: pygame.Rect
- ☐ image: pygame.Surface
- ☐ width: int
- ☐ height: int
- ☐ name: str

- ● draw(win: pygame.Surface, offset_x: int): void

Movement Mechanics	Objects (Player Block Fire)	Animation	Background Render	Main Game Loop
Handle Player Movement	Define Player Class	create mask	load background	create main loop to run game
Jumping Mechanism	Define Fire Class	load_sprites	draw function	call all in game objects and run inside the loop
implement Gravity	Define Block Class	load in game object animations	implement scrolling background	create pygame event
velocity	get_block function			
fall count	call move functions			
landing	Defining other in game objects and their attributes			
move left , right, flip				