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Pygame – Creating Sprites

Last Updated : 28 Jul, 2021

Sprites are objects, with different properties like height, width, color, etc., and methods like moving right, left, up and down, jump, etc. In this article, we are looking to create an object in which users can control that object and move it forward, backward, up, and down using arrow keys.

Let first look at our first-class i.e., the class in which our sprite is defined, we will call that class Sprite. This Sprite class defines its positions(x and y coordinates), dimension of an object, color, etc. First, we will be calling our `__init__()` method. It is called a constructor for a class.

Example: Creating Sprite class

Python3

```
import pygame

# GLOBAL VARIABLES
COLOR = (255, 100, 98)
SURFACE_COLOR = (167, 255, 100)
WIDTH = 500
HEIGHT = 500

# Object class
class Sprite(pygame.sprite.Sprite):
    def __init__(self, color, height, width):
        super().__init__()

        self.image = pygame.Surface([width, height])
        self.image.fill(SURFACE_COLOR)
        self.image.set_colorkey(COLOR)

        pygame.draw.rect(self.image,
                         color,
                         pygame.Rect(0, 0, width, height))

        self.rect = self.image.get_rect()
```

Now, that the class has been created, we can create objects from the class. It enables us to create as many objects as we need using the same class. Now we will create an object using our Class Sprite.

Syntax:

```
object = Sprite(RED,WIDTH,HEIGHT)
```

By default, the object will be on position (0,0) i.e., top-left of the screen. We can change the x and y properties of the object.

Syntax:

```
object.rect.x = value
```

```
object.rect.y = value
```

We can define n of sprites that we want to create, but for the purpose of understanding, let's simplify. Here we have created a rectangle sprite of certain dimensions, on which we can perform different operations to perform on sprites like move forward, backward, jump, slow, accelerate, etc.

Example: Creating sprite

Python3

```
import pygame
import random

# GLOBAL VARIABLES
COLOR = (255, 100, 98)
SURFACE_COLOR = (167, 255, 100)
WIDTH = 500
HEIGHT = 500

# Object class
class Sprite(pygame.sprite.Sprite):
```

```
def __init__(self, color, height, width):
    super().__init__()

    self.image = pygame.Surface([width, height])
    self.image.fill(SURFACE_COLOR)
    self.image.set_colorkey(COLOR)

    pygame.draw.rect(self.image,color,pygame.Rect(0, 0, width, height))

    self.rect = self.image.get_rect()

pygame.init()

RED = (255, 0, 0)

size = (WIDTH, HEIGHT)
screen = pygame.display.set_mode(size)
pygame.display.set_caption("Creating Sprite")

all_sprites_list = pygame.sprite.Group()

object_ = Sprite(RED, 20, 30)
object_.rect.x = 200
object_.rect.y = 300

all_sprites_list.add(object_)

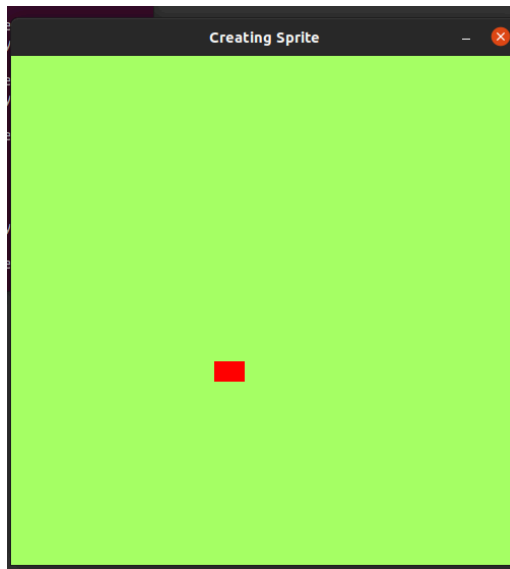
exit = True
clock = pygame.time.Clock()

while exit:
    for event in pygame.event.get():
        if event.type == pygame.QUIT:
            exit = False

    all_sprites_list.update()
    screen.fill(SURFACE_COLOR)
    all_sprites_list.draw(screen)
    pygame.display.flip()
    clock.tick(60)

pygame.quit()
```

Output:



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