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How to Rotate and Scale images using PyGame ?

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In this article, we are going to see how to Rotate and Scale the image. Image Scaling refers to the resizing of the original image and Image Rotation refers to turning off an image with some angle. Rotations in the coordinate plane are counterclockwise. Let's proceed with the methods used and the complete code to perform these tasks.

Scaling the Image

To scale the image we use the **pygame.transform.scale(image, DEFAULT_IMAGE_SIZE)** method where we pass the image that we are going to scale and the default image size that we will set manually according to our need.

Example:

Image Used:

Python3

```python
# Import pygame
import pygame

# Initialise pygame
pygame.init()

# Set window size
```

```python
size = width,height = 600, 600
screen = pygame.display.set_mode(size)

# Clock
clock = pygame.time.Clock()

# Load image
image = pygame.image.load('gfg.png')

# Set the size for the image
DEFAULT_IMAGE_SIZE = (200, 200)

# Scale the image to your needed size
image = pygame.transform.scale(image, DEFAULT_IMAGE_SIZE)

# Set a default position
DEFAULT_IMAGE_POSITION = (200,200)

# Prepare loop condition
running = False

# Event loop
while not running:

    # Close window event
    for event in pygame.event.get():
        if event.type == pygame.QUIT:
            running = True

    # Background Color
    screen.fill((0, 0, 0))

    # Show the image
    screen.blit(image, DEFAULT_IMAGE_POSITION)

    # Part of event loop
    pygame.display.flip()
    clock.tick(30)
```
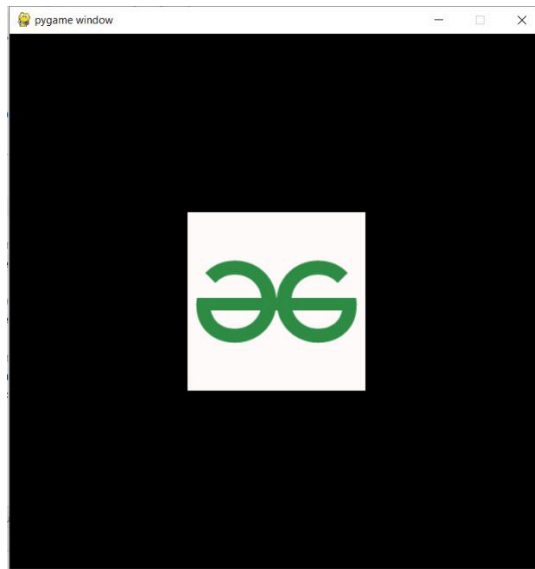
Output:

Rotating the Image

To rotate the image we use the **pygame.transform.rotate(image, degree)** method where we pass the **image** that we are going to rotate and the **degree** by which rotation is to be done.

Example:

Python3

```python
# Import pygame
import pygame

# Initialise pygame
pygame.init()

# Set window size
size = width,height = 600, 600
screen = pygame.display.set_mode(size)

# Clock
clock = pygame.time.Clock()

# Load image
image = pygame.image.load('gfg.png')

# Set the size for the image
DEFAULT_IMAGE_SIZE = (200, 200)

# Rotate the image by any degree
image = pygame.transform.rotate(image, 180)
```

```python
    # Set a default position
    DEFAULT_IMAGE_POSITION = (200,200)

    # Prepare loop condition
    running = False

    # Event loop
    while not running:

        # Close window event
        for event in pygame.event.get():
            if event.type == pygame.QUIT:
                running = True

        # Background Color
        screen.fill((0, 0, 0))

        # Show the image
        screen.blit(image, DEFAULT_IMAGE_POSITION)

        # Part of event loop
        pygame.display.flip()
        clock.tick(30)
```
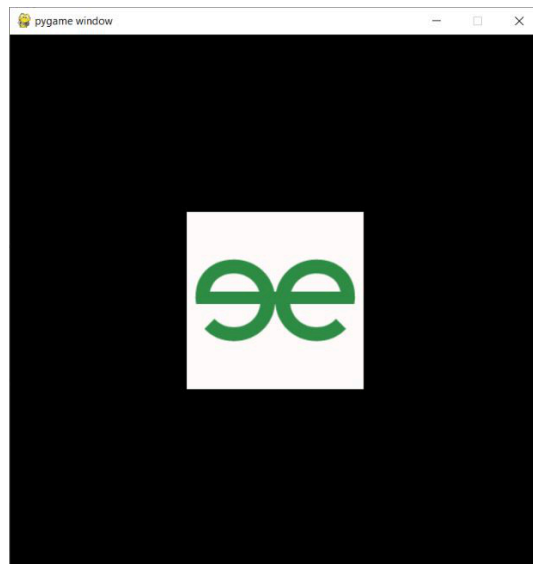
Output:

Rotating and Scaling the Image

Let us see how to perform the Scaling and Rotation of an image given. We will
set the default image size that is agreeable and the default image position
where we want to see our image on the window screen. The same methods
that are explained above will be used for scaling and rotation the image.

Example:

Python3

```python
# Import pygame
import pygame

# Initialise pygame
pygame.init()

# Set window size
size = width,height = 600, 600
screen = pygame.display.set_mode(size)

# Clock
clock = pygame.time.Clock()

# Load image
image = pygame.image.load('gfg.png')

# Set the size for the image
DEFAULT_IMAGE_SIZE = (200, 200)

# Scale the image to your needed size
image = pygame.transform.scale(image, DEFAULT_IMAGE_SIZE)

# Rotate the image by any degree
image = pygame.transform.rotate(image, 90)

# Set a default position
DEFAULT_IMAGE_POSITION = (200,200)

# Prepare loop condition
running = False

# Event loop
while not running:

    # Close window event
    for event in pygame.event.get():
        if event.type == pygame.QUIT:
            running = True

    # Background Color
    screen.fill((0, 0, 0))

    # Show the image
    screen.blit(image, DEFAULT_IMAGE_POSITION)
```
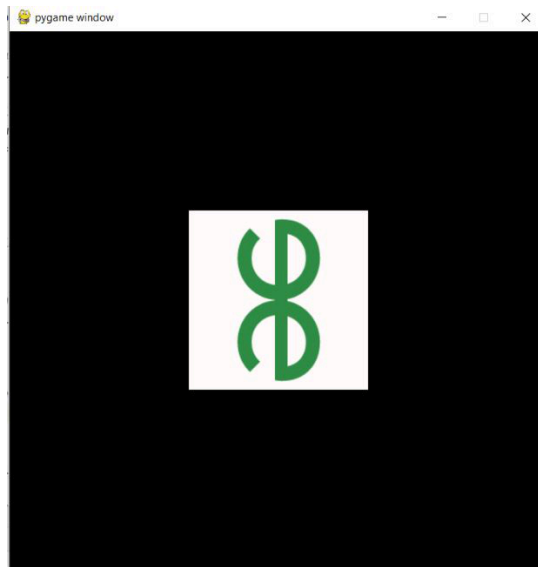
```
# Part of event loop
pygame.display.flip()
clock.tick(30)
```

Output:

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