

Basic Syntax of Pygame

1. Initialization and Window Setup

```
# Import the Pygame library
import pygame
import sys

# Initialize Pygame
pygame.init()

# Set the window size (width, height)
screen = pygame.display.set_mode((640, 480))

# Set the window title ("Title")
pygame.display.set_caption("Window Title")

# Define colors
WHITE = (255, 255, 255)
RED = (255, 0, 0)
BLACK = (0, 0, 0)
```

2. Setting the Frame Rate

```
# Create a Clock object
clock = pygame.time.Clock()

# Specify the frame rate (frames per second)
clock.tick(60)
```

3. Game Loop

```
# Event loop
for event in pygame.event.get():
    # Process when the close button is pressed
    if event.type == pygame.QUIT:
        pygame.quit()
        sys.exit()
```

4. Key Input

```
# Process key input
keys = pygame.key.get_pressed()
if keys[pygame.K_LEFT]:
    pass
```

5. Drawing Shapes

```
# Draw a rectangle (screen, color, (X, Y, width, height))
pygame.draw.rect(screen, WHITE, (100, 100, 50, 50))
# Draw a circle (screen, color, (X, Y), radius)
pygame.draw.circle(screen, RED, (320, 240), 50)
```

6. Loading and Drawing Images

```
# Load an image ("image filename")
image = pygame.image.load("image.png")
# Draw the image (image, (X, Y))
screen.blit(image, (100, 100))
```

7. Text Settings

```
# Set the font (font file, font size)
font = pygame.font.Font(None, 36)
# Render the text (text, anti-aliasing, color)
text = font.render("Hello, Pygame!", True, WHITE)
# Draw the text on the screen (text, (X, Y))
screen.blit(text, (200, 150))
```

8. Setting Music and Sounds

```
# Load a music file ("music filename")
pygame.mixer.music.load("background.mp3")
# Play the music (-1 means infinite loop)
pygame.mixer.music.play(-1)

# Load a sound effect ("sound effect filename")
sound = pygame.mixer.Sound("effect.wav")
# Play the sound effect
sound.play()
```

9. Updating the Screen and Exit Processing

```
# Clear the screen (fill with a color)
screen.fill(BLACK)

# Update the screen
pygame.display.flip()

# Exit Pygame
pygame.quit()
sys.exit()
```