Python i Pygame

Programiranje arkadnih igrica u Pythonu koristeći Pygame

Grafika - Bitmape i zvuk

Postavke prije glavne petlje

- Učitati sliku koju želimo prikazati u pozadini
  ```
  background_image = pygame.image.load("saturn_family1.jpg").convert()
  ```

- Učitati sliku koju pomiče igrač
  ```
  player_image = pygame.image.load("playerShip1_orange.png").conver
  ```

- Na igračevoj slici crnu boju postaviti kao "transparentnu" – da se ne prikazuje
  ```
  player_image.set_colorkey(BLACK)
  ```

- Učitati datoteku zvuka
  ```
  click_sound = pygame.mixer.Sound("laser5.ogg")
  ```

- Postaviti koordinate za crtanje slike u pozadini
  ```
  background_position = [0, 0]
  ```

Unutar glavne petlje programa

- Detektirati da je igrač pritisnuo tipku miša i odsvirati zvuk

```
…
elif event.type == pygame.MOUSEBUTTONDOWN:
    click_sound.play()
```

- Postaviti sliku pozadine na ekran, na poziciji definiranoj sa background_position

```
screen.blit(background_image, background_position)
```

- Pročitati trenutne koordinate miša

```
player_position = pygame.mouse.get_pos()
    x = player_position[0]
    y = player_position[1]
```

- Postaviti sliku igrača na trenutnim koordinatama miša

```
screen.blit(player_image, [x, y])
```

Kviz

- Slijedi link ispod:

  http://programarcadegames.com/quiz/quiz.php?file=bitmapped_graphics&lang=en

Kviz odgovori

- P1: Should the following line go inside, or outside of the main program loop?
  ```
  background_image = pygame.image.load("saturn_family1.jpg").convert()
  ```

  - Outside the loop, because it isn't a good idea to load the image from the disk 20 times per second.
  - Inside the loop, because the background image needs to be redrawn every frame.

- P2: In the following code, what does the [0, 0] do?
  ```
  screen.blit(background_image, [0, 0])
  ```

  - Draw the bitmap in the center of the screen.
  - Default dimensions of the bitmap.
  - Specifies the x and y of the top left coordinate of where to start drawing the bitmap on the screen.

Kviz odgovori, nastavak

- P3: Should the following line go inside, or outside of the main program loop?
  ```
  screen.blit(background_image, [0, 0])
  ```

  - Inside the loop, because the background image needs to be redrawn every frame.
  - Outside the loop, because it isn't a good idea to load the image from the disk 20 times per second.

- P4: Given this line of code, what code will get the x value of the current mouse position?
  ```
  player_position = pygame.mouse.get_pos()
  ```

  - x[0] = player_position
  - x = player_position.x
  - x = player_position[0]
  - x = player_position[x]

Kviz odgovori, nastavak

- P5: What types of image file formats are loss-less (i.e., they do not change the image)? Choose the best answer.
    - gif
    - png, gif
    - png
    - png, jpg, gif
    - jpg, gif
    - jpg

- P6: What does this code do?
  ```
  player_image.set_colorkey(WHITE)
  ```

    - Draws the player image in white.
    - Makes the bitmap background white.
    - Sets the next color to be drawn to white.
    - Sets all the white pixels to be transparent instead.
    - Clears the screen to a white color.

- P7: What is wrong with section of code?

```
for event in pygame.event.get():
    if event.type == pygame.QUIT:
        done=True
    if event.type == pygame.MOUSEBUTTONDOWN:
        click_sound = pygame.mixer.Sound("click.wav")
        click_sound.play()
```

- The colorkey hasn't been set for click_sound yet.
- Pygame doesn't support .wav files.
- Sounds should not be played in a main program loop.
- Sounds should be loaded at the start of the program, not in the main program loop.