

File Edit Selection View Go Run Terminal Help

lab.py

Python Debug Console

EXPLORER

LAB.PY

cartpole.py

PROBLEMS

Filter (e.g. text, \*\*/\*.ts, \*\*/\*.node\_modules, ...)

No problems have been detected in the workspace.

OUTLINE

TIMELINE

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

Episode 11 Score: 39.0  
Episode 12 Score: 38.0  
Episode 13 Score: 48.0  
Episode 14 Score: 42.0  
Episode 15 Score: 34.0  
Episode 16 Score: 58.0  
Episode 17 Score: 38.0  
Episode 18 Score: 52.0  
Episode 19 Score: 41.0  
Episode 20 Score: 48.0  
Episode 21 Score: 39.0  
Episode 22 Score: 47.0  
Episode 23 Score: 37.0  
Episode 24 Score: 31.0  
Episode 25 Score: 47.0  
Episode 26 Score: 52.0  
Episode 27 Score: 49.0  
Episode 28 Score: 61.0  
Episode 29 Score: 26.0  
Episode 30 Score: 35.0  
Episode 31 Score: 38.0  
Episode 32 Score: 38.0  
Episode 33 Score: 58.0  
Episode 34 Score: 47.0  
Episode 35 Score: 34.0  
Episode 36 Score: 42.0  
Episode 37 Score: 47.0  
Episode 38 Score: 47.0  
Episode 39 Score: 39.0  
Episode 40 Score: 49.0  
Episode 41 Score: 37.0  
Episode 42 Score: 44.0  
Episode 43 Score: 37.0  
Episode 44 Score: 39.0  
Episode 45 Score: 45.0  
Episode 46 Score: 62.0  
Episode 47 Score: 35.0  
Episode 48 Score: 39.0  
Episode 49 Score: 41.0  
Episode 50 Score: 39.0

Maximum Score Achieved: 62.0

PS C:\Users\zuner\OneDrive\Desktop\lab working\lab 11\lab.py>

Ln 49, Col 1 Spaces: 4 UTF-8 CRLF Python 3.13.2 Go Live

44°F Clear 12:27 AM 1/28/2028

Visual Studio Code interface showing a Python script for a Mountain Car game simulation. The script is named `mountaincar.py` and is located in the `LAB.PY` folder. The script includes comments for tasks 3 and 4, and a `pygame` window titled "pygame window".

```
32
33
34 # Initialize font for Pygame
35 if font is None:
36     pygame.font.init()
37     font = pygame.font.SysFont("Arial", 24)
38
39 # Task 3: Display Episode + Score in blue
40 sur
41 tex
42 sur
43
44 # T
45 pyg
46 pyg
47
48 scores.
49 print(f
50
51 # Task 4: S
52 print("\nBe
53
54 env.close()
55 pygame.quit()
```

The `pygame` window displays a black car on a curved track, moving towards a yellow flag at the end of the track. The track is a simple black line on a white background.

The `OUTPUT` panel shows the state of the environment at each step:

```
State: [-0.19622701  0.04066139]
State: [-0.1565448  0.0395822]
State: [-0.1182916  0.03835321]
State: [-0.08128262  0.03700899]
State: [-0.04599967  0.03558294]
State: [-0.01159327  0.03410654]
State: [0.02101464  0.03266791]
State: [0.05212752  0.0311288]
```

The status bar at the bottom indicates the file is at line 55, column 1, with 4 spaces, UTF-8 encoding, and CRLF line endings. The Python version is 3.13.2, and the Go Live extension is installed. The system clock shows 12:29 AM on 1/18/2026.

Visual Studio Code interface showing a Python script for a cartpole simulation and its execution output.

**Explorer:** LAB.PY, cartpole.py, mountaincar.py

**Source File (mountaincar.py):**

```
32
33
34 # Initialize font for Pygame
35 if font is None:
36     pygame.font.init()
37     font = pygame.font.SysFont("Arial", 24)
38
39 # Task 3: Display Episode + Score in blue
40 sur = pygame.window
41 tex
42 sur
43
44 # T
45 pyg
46 pyg
47
48 scores.
49 print(
50
51 # Task 4: B
52 print("\nBe
53
54 env.close()
55 pygame.quit
```

**Pygame Window:** A window titled "pygame window" showing a black cart on a curved track. A yellow flag is at the top right of the track.

**Output:**

```
State: [-0.35007182  0.03154556]
State: [-0.3187697  0.03130211]
State: [-0.28790894  0.03086076]
State: [-0.25767222  0.03023673]
State: [-0.228225  0.02944722]
State: [-0.19971433  0.02851065]
State: [-0.17226823  0.02744611]
State: [-0.14599583  0.0262726 ]
```

**Python Debug Console:** Python 3.13.2, 12:30 AM, 1/28/2028

File Edit Selection View Go Run Terminal Help

lab.py

EXPLORER

- LAB.PY
  - cartpole.py
  - mountaincar.py

mountaincar.py

```
32
33
34 # Initialize font for Pygame
35 if font is None:
36     pygame.font.init()
37     font = pygame.font.SysFont("Arial", 24)
38
39 # Task 3: Display Episode + Score in blue
40 surface = pygame.display.get_surface()
41 text = font.render(f"Episode: {episode} | Score: {int(score)}", True, (0, 0, 255))
42 surface.blit(text, (200, 20))
43
44 # Task 5: Slow down visualization
45 pygame.time.delay(20)
46 pygame.display.update()
47
48 scores.append(score)
49 print(f"Episode: {episode} Steps: {steps} Score: {score}")
50
51 # Task 4: Best score
52 print("\nBest Score Achieved:", max(scores))
53
54 env.close()
55 pygame.quit()
```

PROBLEMS

Filter (e.g. text, \*\*/\*.ts, \*\*/node\_modules...)

No problems have been detected in the workspace.

OUTLINE

TIMELINE

OUTPUT

```
State: [0.41832922 0.01847694]
State: [0.4289729 0.01864367]
State: [0.4479164 0.01894347]
State: [0.4672971 0.01938872]
State: [0.48725754 0.01996846]
Episode 50 Steps: 91 Score: -91.0

Best Score Achieved: -87.0
```

Python Debug Console

PS C:\Users\zumer\OneDrive\Desktop\lab working\lab 11\lab.py

Ln 55, Col 1 Spaces: 4 UTF-8 CRLF Python 3.13.2 Go Live

44°F Clear 12:33 AM 1/28/2028