

**To Write python script to spin the ball as well as revolve it in a circular manner around the center of the axis.**

1) Python Script for animating the video.

Code:

```
import bpy
```

```
import math
```

```
from math import radians
```

```
Earth = bpy.data.objects["Earth"]
```

```
radius = 12
```

```
start_pos = (radius, 0, 5)
```

```
Earth.location = start_pos
```

```
for frame in range(1,300):
```

```
    angle = 2*math.pi*frame/100.0
```

```
    x = radius*math.cos(angle)
```

```
    y = radius*math.sin(angle)
```

```
    bpy.context.scene.frame_set(frame)
```

```
    Earth.location = (x, y, 5)
```

```
    Earth.rotation_euler.rotate_axis("Z", radians(6))
```

```
    Earth.keyframe_insert(data_path="location", index = -1)
```

```
Mercury = bpy.data.objects["Mercury"]
```

```
radius = 7
```

```
start_pos = (radius, 4, 5)
```

```
Mercury.location = start_pos
```

```
for frame in range(1,300):
```

```
    angle = 3*math.pi*frame/100.0
```

```
    x = radius*math.cos(angle)
```

```
    y = radius*math.sin(angle)
```

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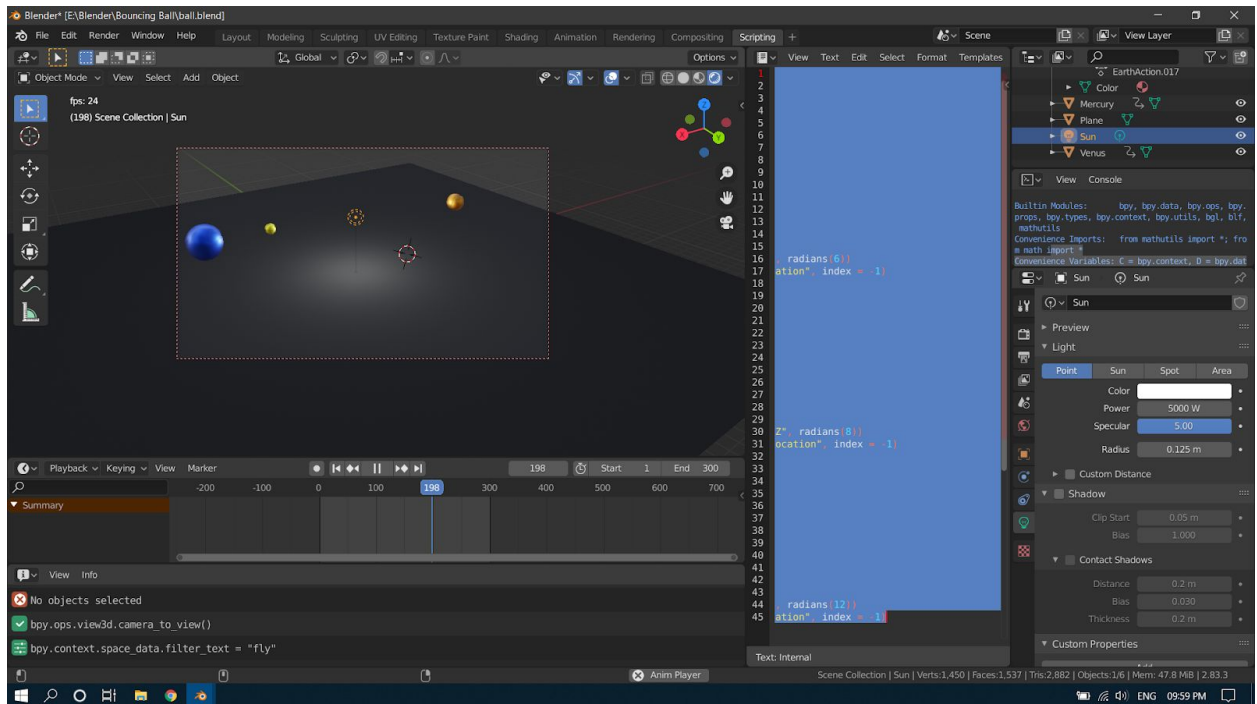
```
bpy.context.scene.frame_set(frame)
Mercury.location = (x, y, 5)
Mercury.rotation_euler.rotate_axis("Z", radians(8))
Mercury.keyframe_insert(data_path="location", index = -1)

Venus = bpy.data.objects["Venus"]
radius = 9.5
start_pos = (radius, 9, 5)
Venus.location = start_pos

for frame in range(1,300):
    angle = 2.5*math.pi*frame/100.0
    x = radius*math.cos(angle)
    y = radius*math.sin(angle)
    bpy.context.scene.frame_set(frame)
    Venus.location = (x, y, 5)
    Venus.rotation_euler.rotate_axis("Z", radians(12))
    Venus.keyframe_insert(data_path="location", index = -1)
```

2) Screenshots of the blender UI.

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- 3) Steps to go to fly-mode for camera setting and the keyboard commands which work for setting the scene.

Use Case:

There are cases where it's preferable to navigate with first-person controls, especially for large environments such as architectural models. In these cases orbiting around the view, the center is limiting. While zoom, pan & dolly can be used, it's inconvenient.

With walk/fly modes you can navigate around the scene where view rotation is performed from the camera location.

Step:

- 1) Go to Preferences.
- 2) Select the navigation mode you want to use as the default.
- 3) When invoking the View Navigation operator.
- 4) Alternatively, you can call the individual modes from the View Navigation menu.

Hotkey: Shift-AccentGrave ( ` )

You set it to Shift+F for easier navigation

Steps to map key:

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- 1) Edit -> Preferences
- 2) Keymap
- 3) Search for "Walk/Fly" or 3D-View -> View Navigation
- 4) To set the set key hold the shift button then press f.
- 5) Done.

