e-Yantra Robotics Competition (eYRC-2016)
Task 1 – Model a Terrain

The Python console is a quick way to execute commands, with access to the entire Python API, command history and auto-complete.

It's a good way to explore possibilities, which can then be pasted into larger scripts.

To know on how to access Python Console, refer to Tutorial 1.

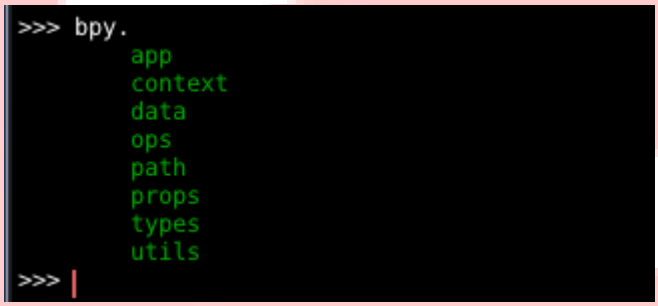
If you look at the 3D View in the default Blender scene, you will notice three objects: Cube, Lamp and Camera.

1. All objects exist in a context and there can be various modes under which they are operated upon.
2. At any instance, only one object is active and there can be more than one selected objects.
3. All objects are data in the blend-file.
4. There are operators/functions that create and modify these objects.

For all the scenarios listed above, the bpy module provides functionality to access and modify data.

Blender Python (bpy) Commands:

In Blender, under bpy different sub modules are available. These modules encapsulate all that we can do with Blender Python API.



We will look into the sub modules one by one.

1. **bpy.app:**
   This module contains application values that remain unchanged during runtime.

   Notice the green output above the prompt where you enabled auto-completion. What you see is the result of auto completion listing.

   To know the description of each module in bpy.app refer to the link:
   https://www.blender.org/api/blender_python_api_2_67_1/bpy.app.html

   Now, let's see some commonly used attributes in bpy.app:

   1. bpy.app.binary_path:

This will return the location of Blender's executable.

```
>>> bpy.app.binary_path
'C:\\Program Files\\Blender Foundation\\Blender\\blender.exe'

>>>
```

2. **bpy.app.version**
   This will return the Blender version as a tuple of 3 numbers.

```
>>> bpy.app.version
(2, 70, 0)

>>>
```

3. bpy.app.debug:
   This is used to set the Blender in debug mode.

```
>>> bpy.app.debug
False

>>> bpy.app.debug = True
>>> bpy.app.debug
True

>>>
```

To check more attributes available in bpy.app, you can use auto-completion feature in Python Console.