

Lab Programs 1

Introduction to Python

Objectives

In this lab programs, you learn about

- How to install Python.
- How to install LiClipse
- How to configure Python in LiClipse
- How to create Python Project
- How to develop Python Program
- How to execute Python Program
- Comment in Python Program

Prerequisites

Before working on this lab program, you must know

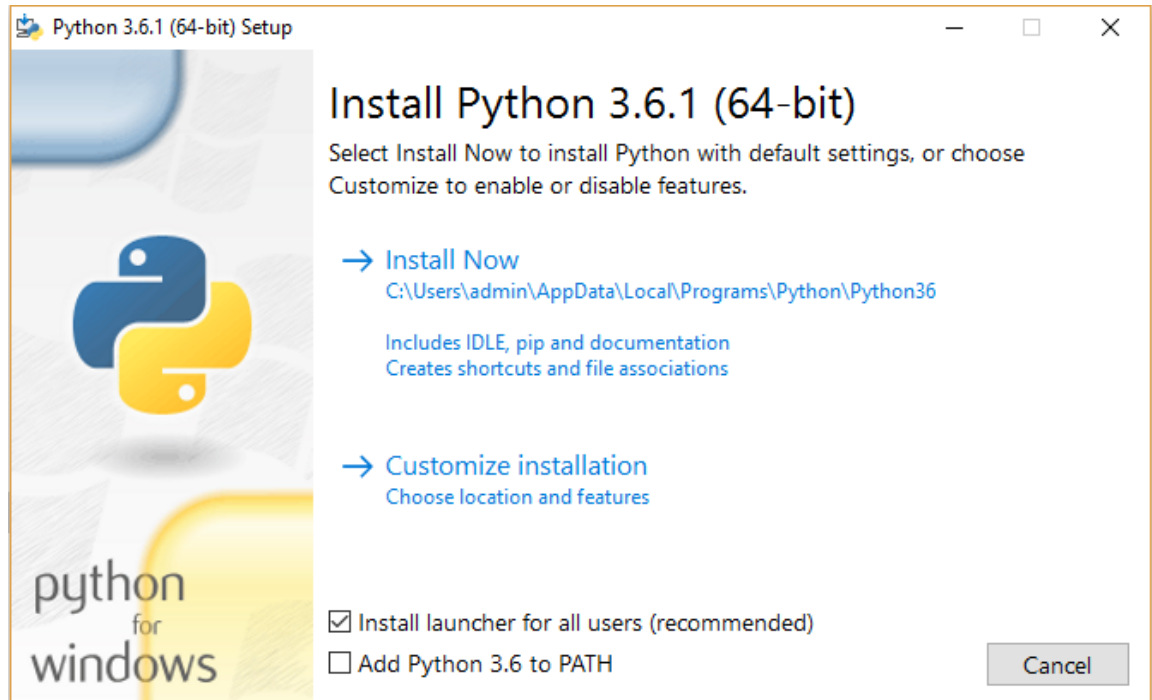
- How to install software in Windows.
- Knowledge on Editor.
- How to save files.

Estimated time to complete this lab programs: 150 minutes

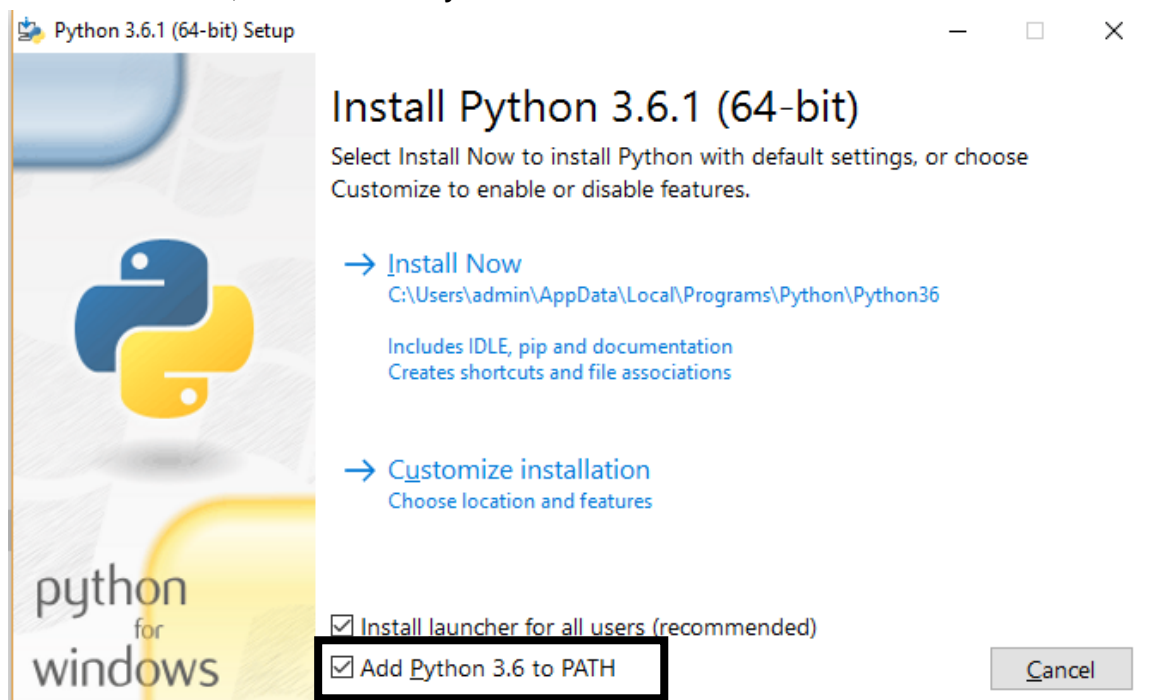
❖ Lab Program 01

This Lab Activity explains how to install Python in your computer.

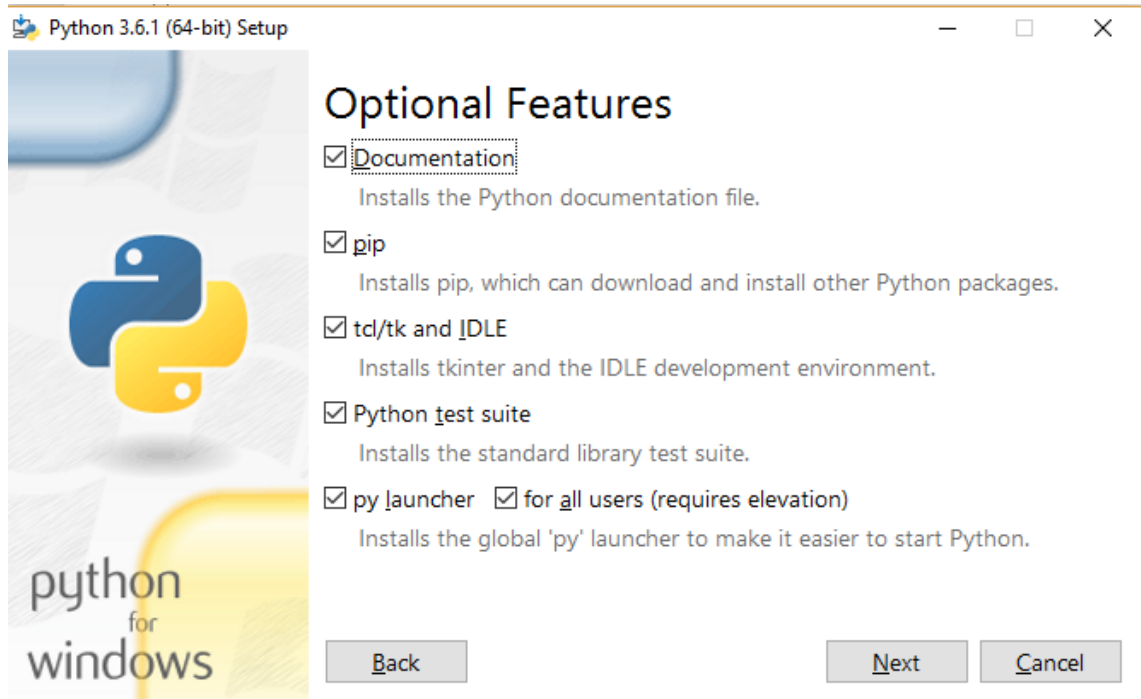
1. **Double click the python-3.6.1-amd64.exe.** This action brings the below screen.



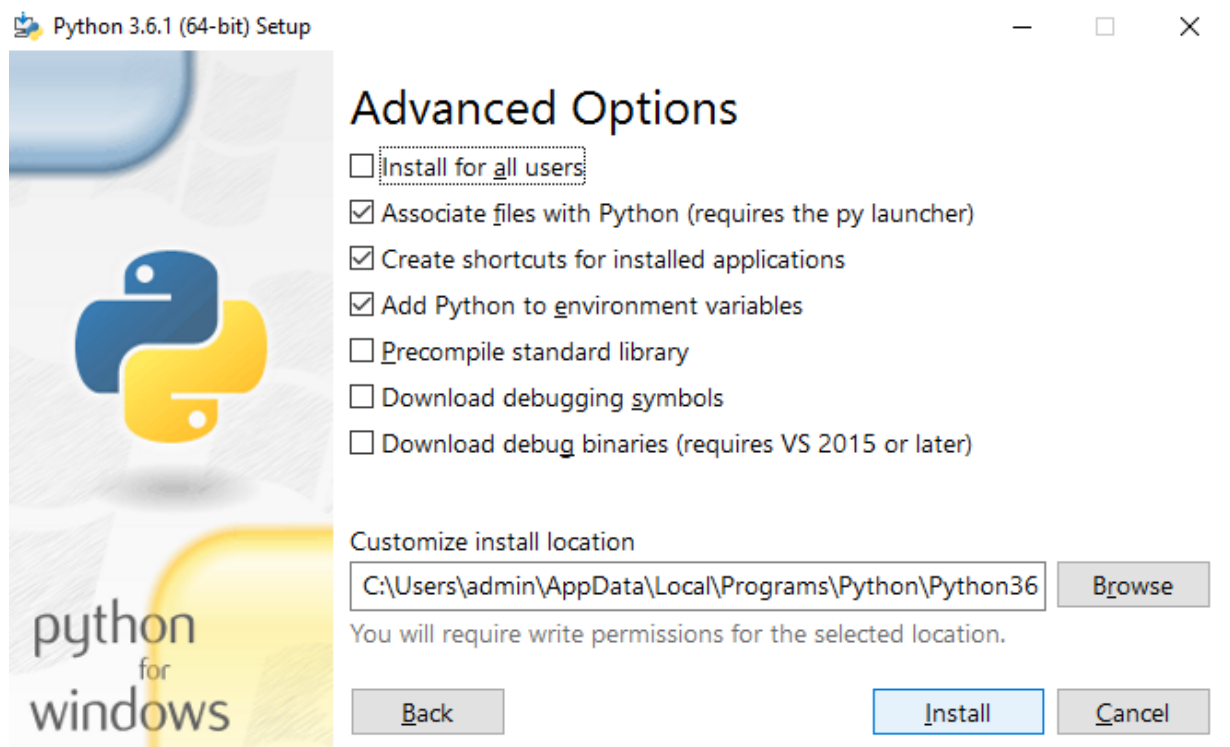
2. In the above screen, **Check the Add Python 3.6 to PATH** checkbox like below.



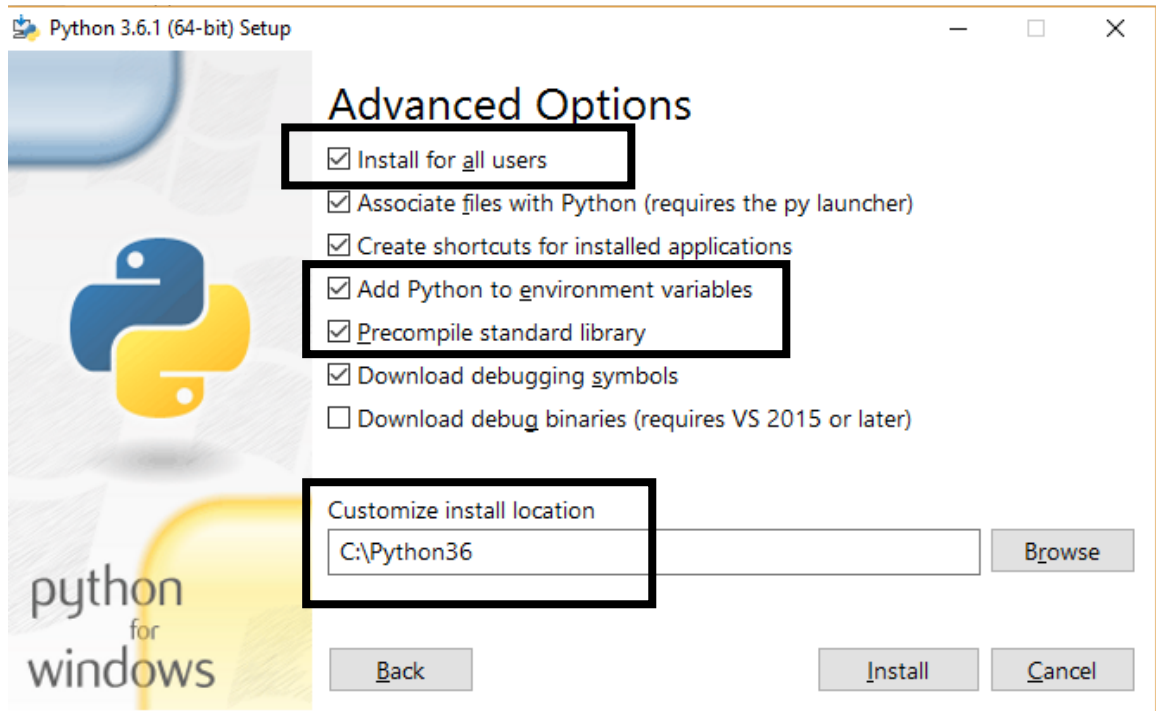
3. In the above screen, **Click on Custom Installation.** This action brings the below screen.



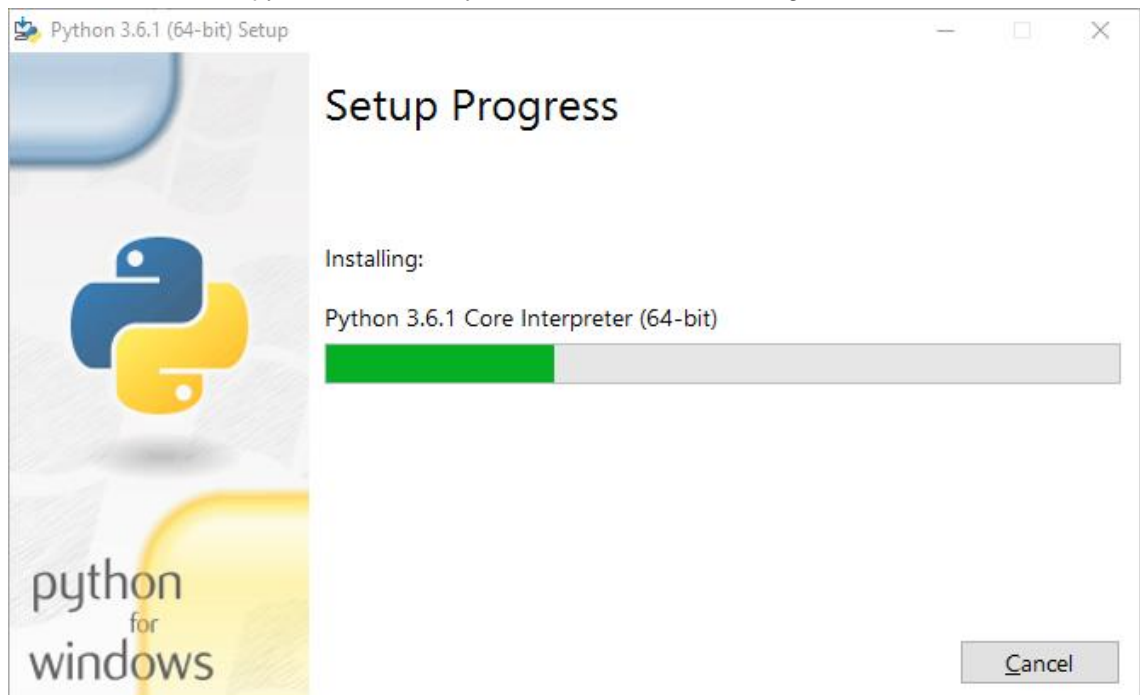
4. In the above screen, **Click on Next**. This action brings the below screen



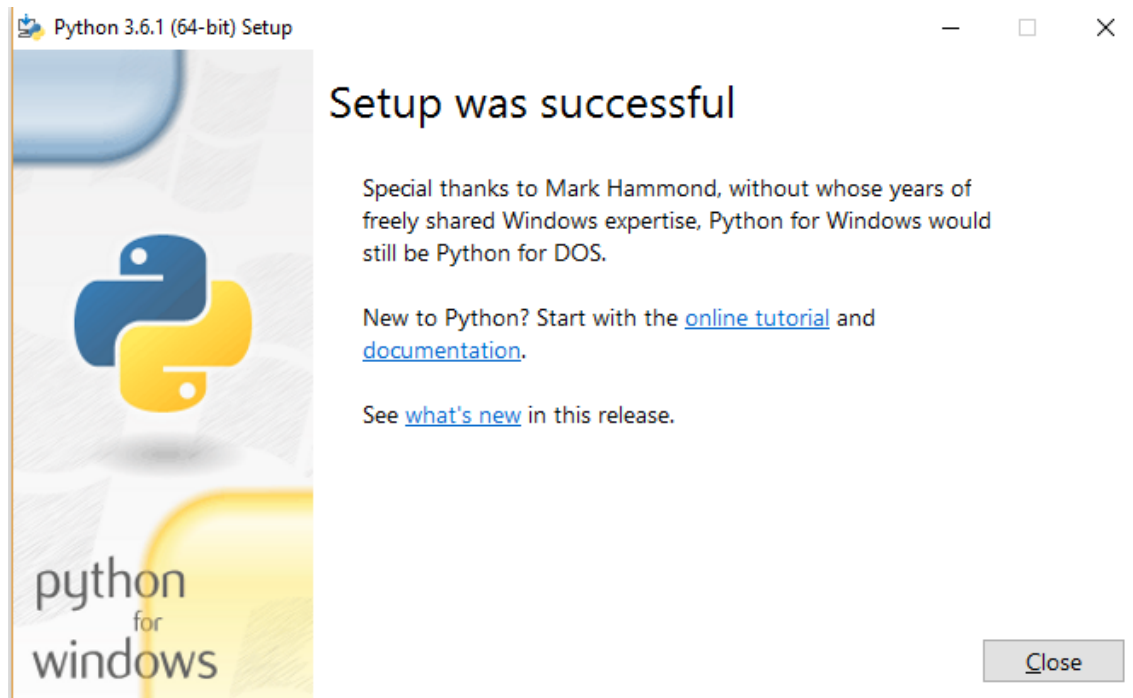
5. In the above screen, **Check** the below Checkboxes
- Install for all users**
 - Precompile standard library**
 - Download debugging symbols**
6. In the above screen, click on the **Browse button**, and select **c:\Python36**
Note: if the folder is not available, **create Python36** folder in **C:.**
7. The final screen should like below



8. In the above screen, **click on Install button.**
9. This action install the python software in your machine. While installing the screen looks like below.



10. After the successful installation, the screen looks like below



11. Click on **Close button**. Now, Python 3.6 has been successfully installed.

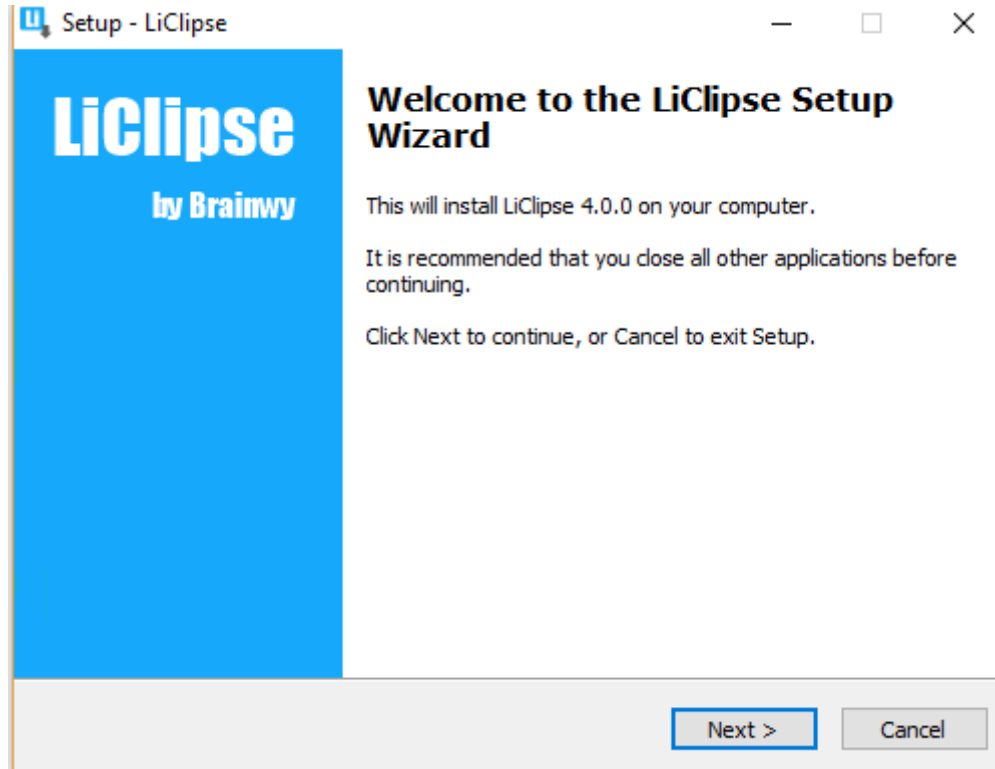
Program Output

What you learnt from this program?

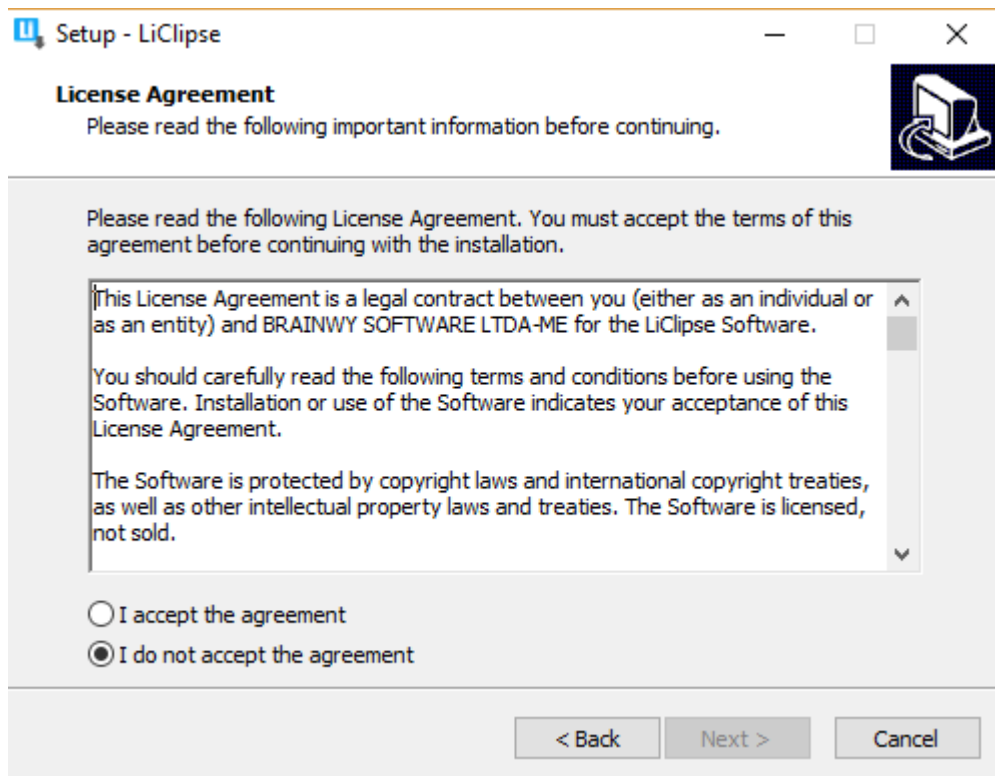
❖ Lab Program 02

This Lab Activity explains how to install LiClipse IDE in your computer.

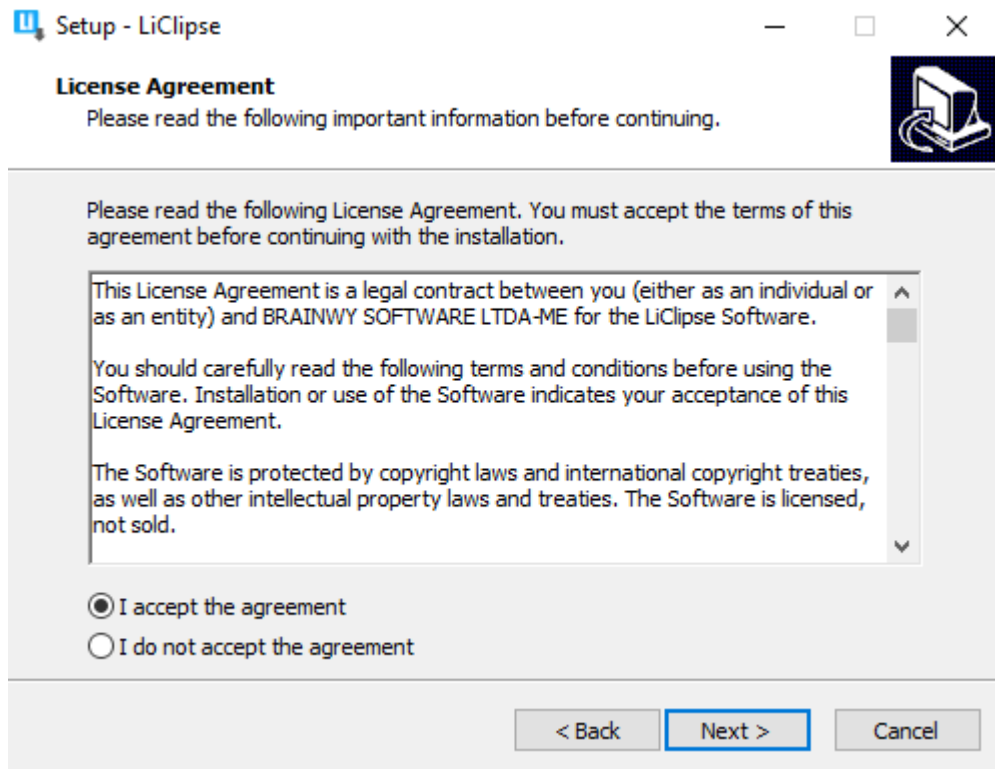
1. Double click the `liclipse_4.0.0_win32.x86_64.exe`. This action brings the below screen.



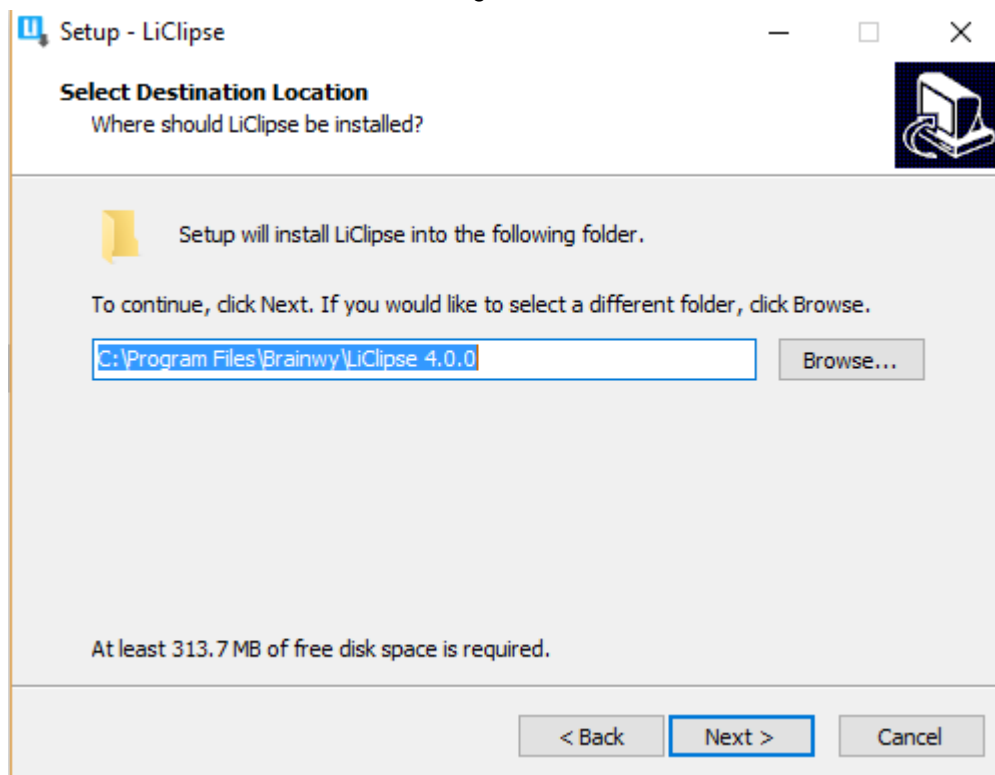
2. Click on the Next Button in the above screen. This action brings the below window.



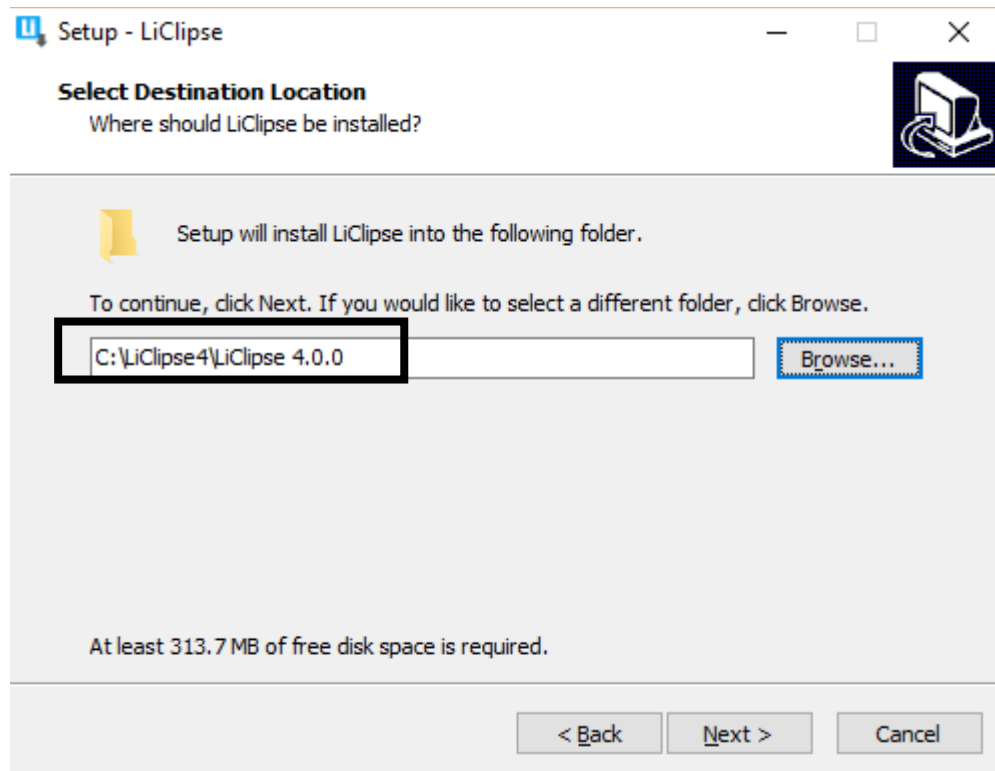
3. Check the **I accept the agreement** in the above screen. This action enables Next button like below.



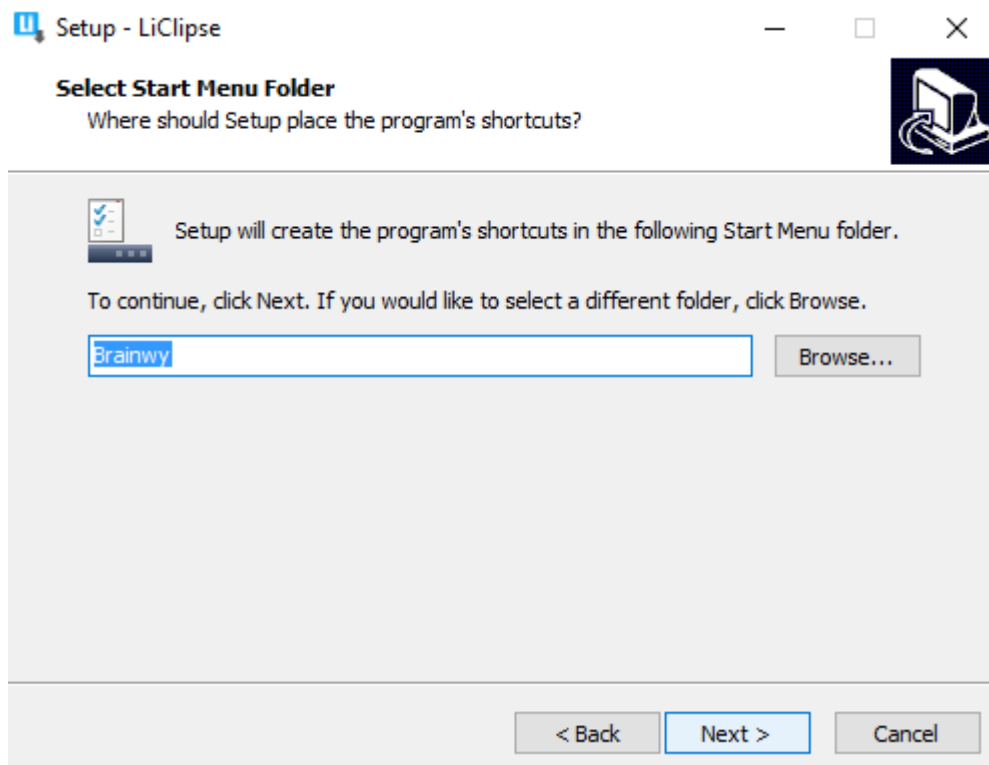
4. Click on the **Next** button. This action brings the below screen.



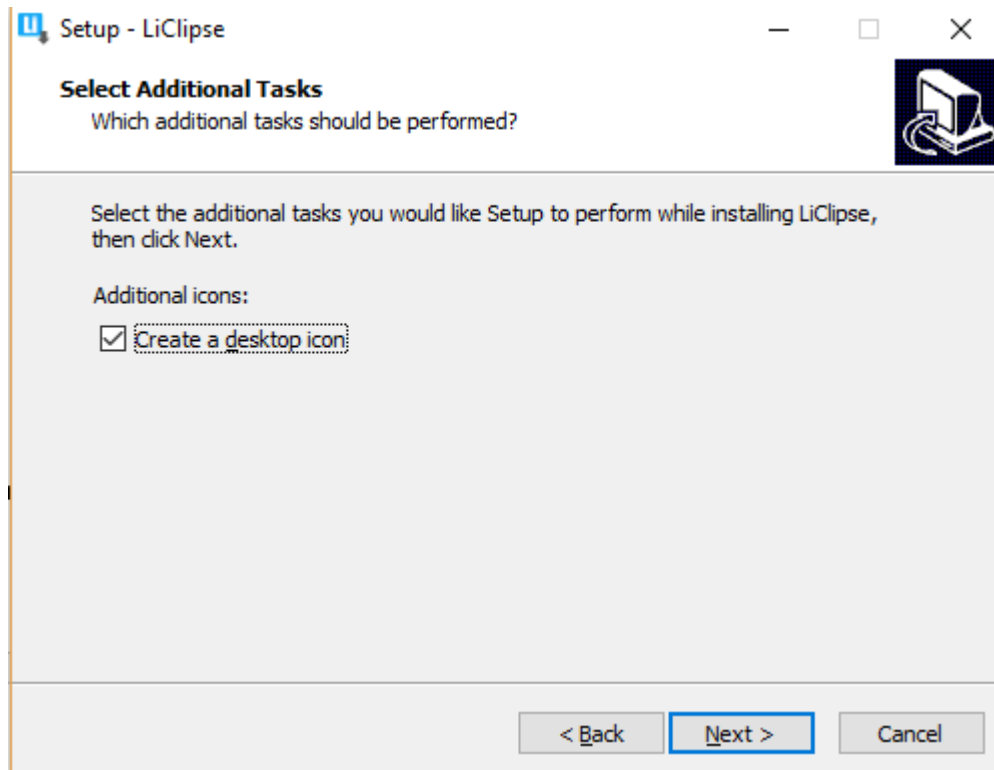
5. In the above screen, click on the **Browse** button, and select **c:\LiClipse4**
Note: if the folder is not available, **create LiClipse4** folder in **C:**.
The screen should like below



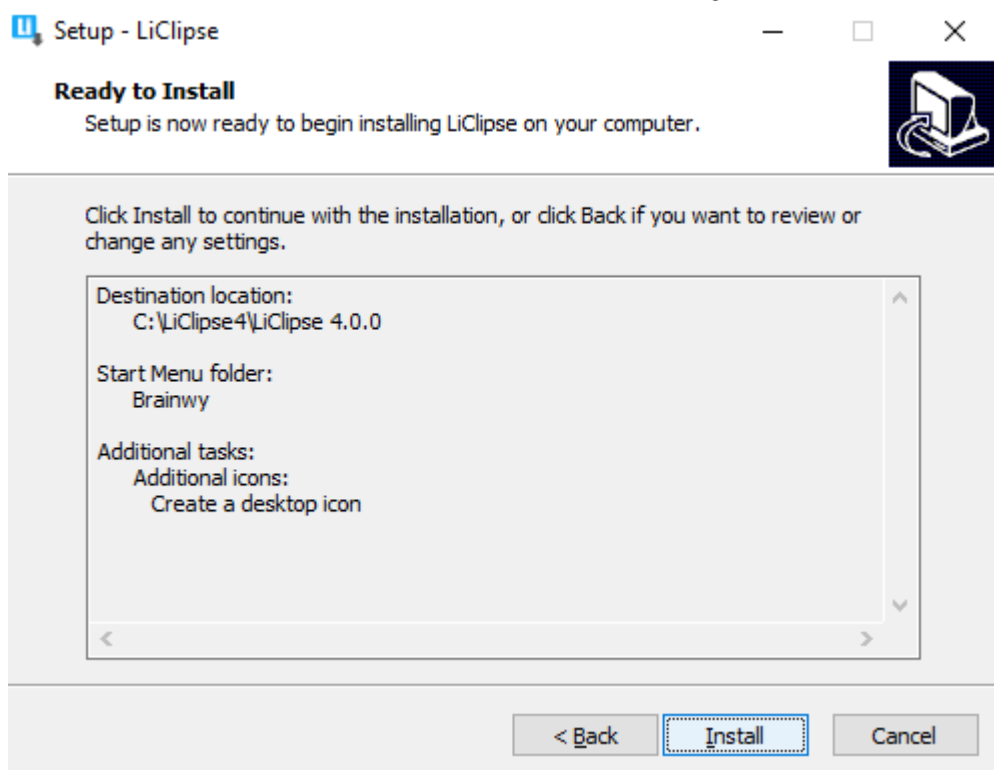
6. Click on the **Next button** in the above screen. This action brings the below screen.



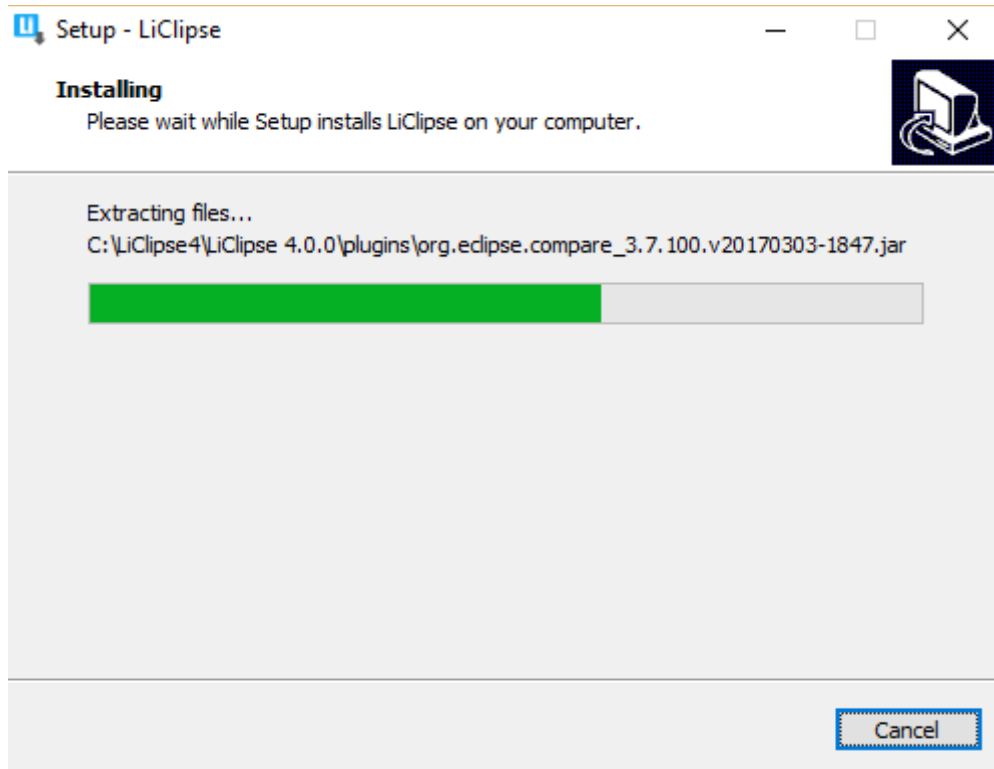
7. Click on the **Next button** in the above screen. This action brings the below screen



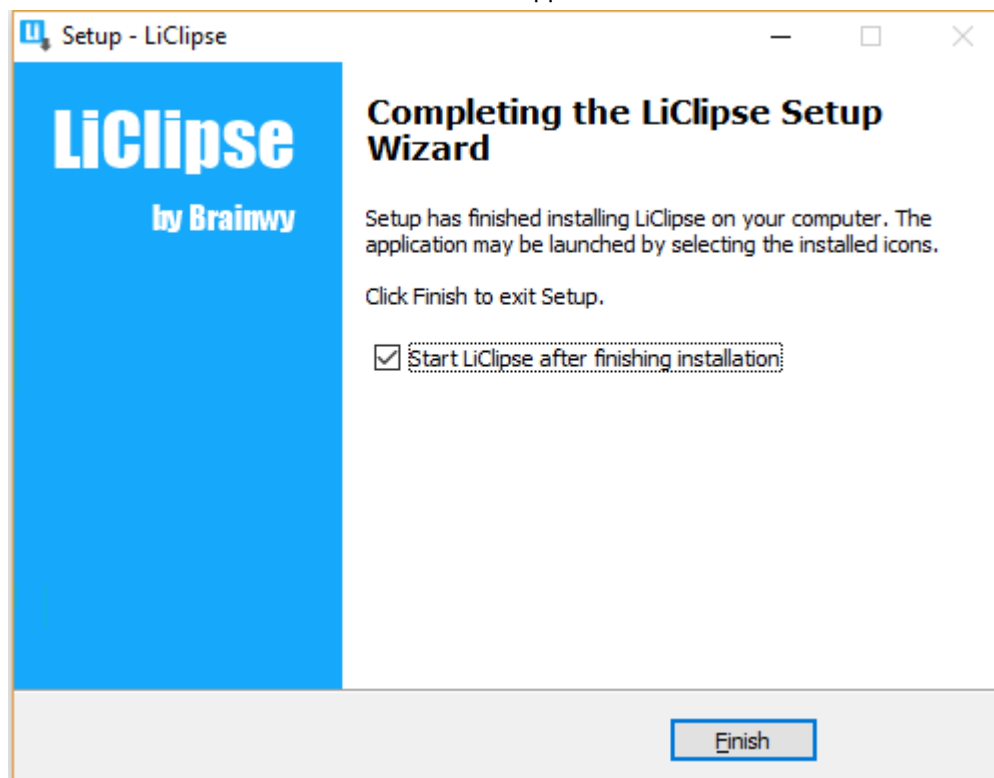
8. **Click** on the **Next button** in the above screen. This action brings the below screen



9. **Click** on the **Install button** in the above screen. This action installs the LiClipse software. While installing the below screen appears



10. After successful installation the below screen appears.



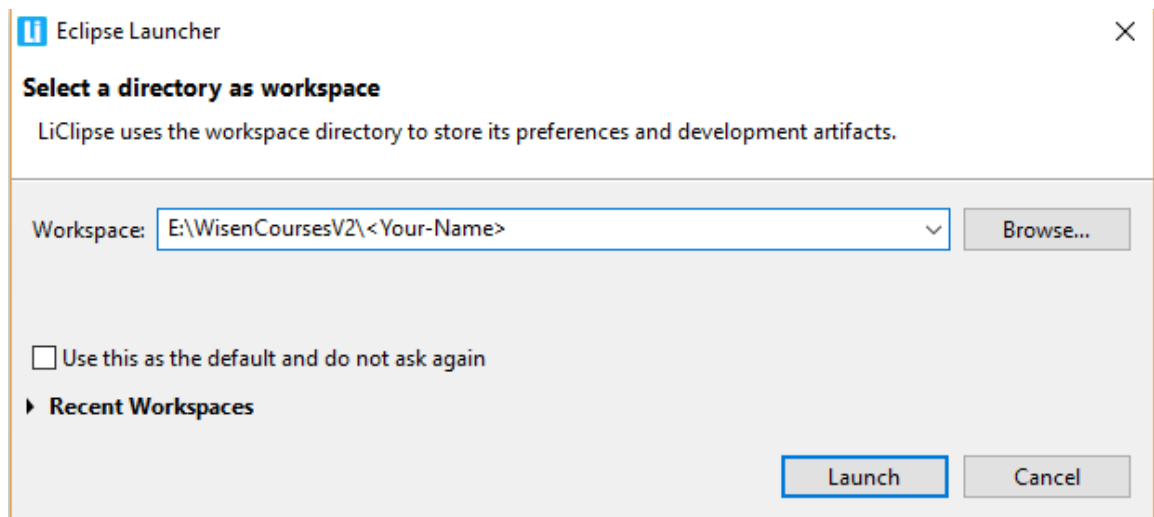
Program Output

What you learnt from this program?

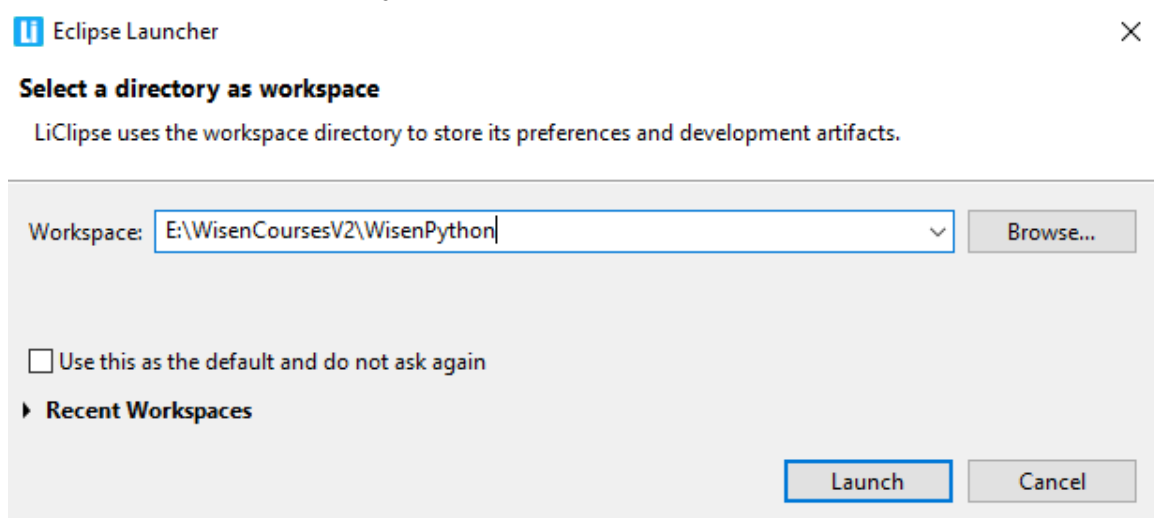
❖ Lab Program 03

This Lab Activity explains how to Python Project using LiClipse.

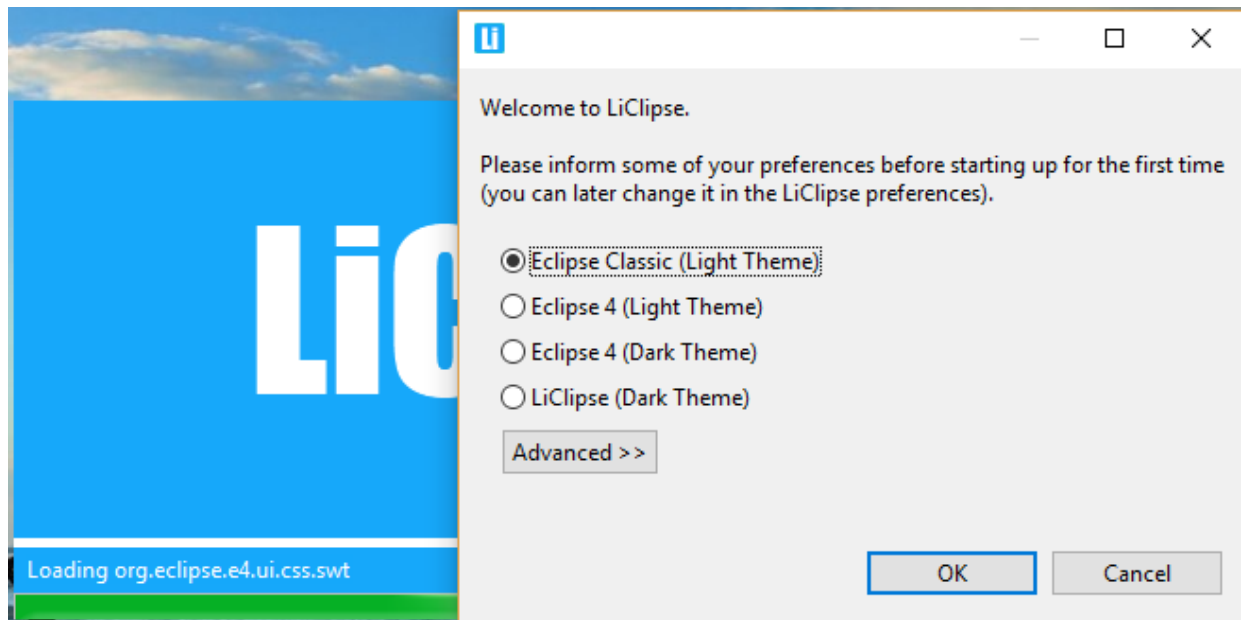
1. Open the LiCclipse. This action brings the below screen. In the workspace, Type E:\WisenCoursesV2\<Your-Name>.



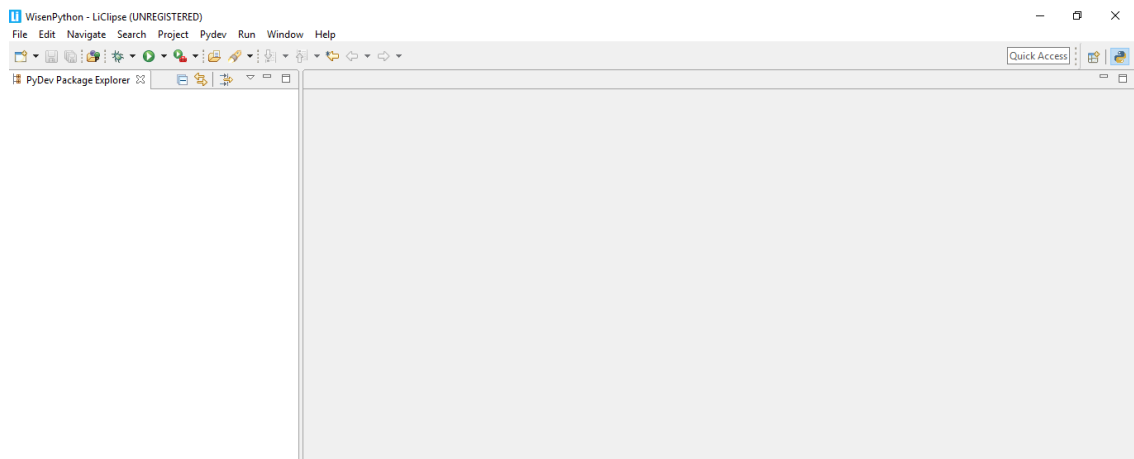
Note: From Onwards WisenProject means <Your Name>



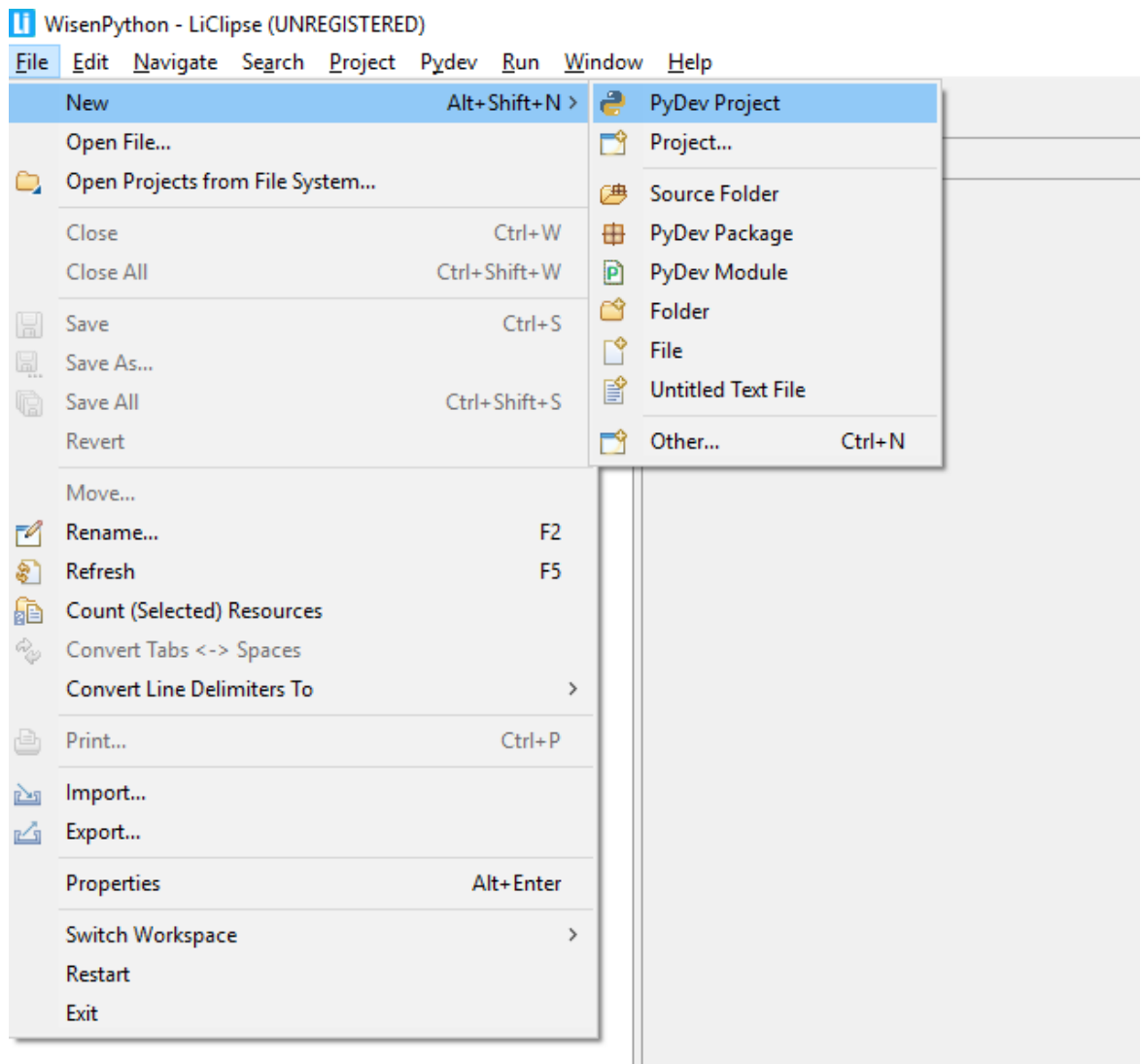
2. In the above screen, click on **Launch Button**. This action brings the below screen.



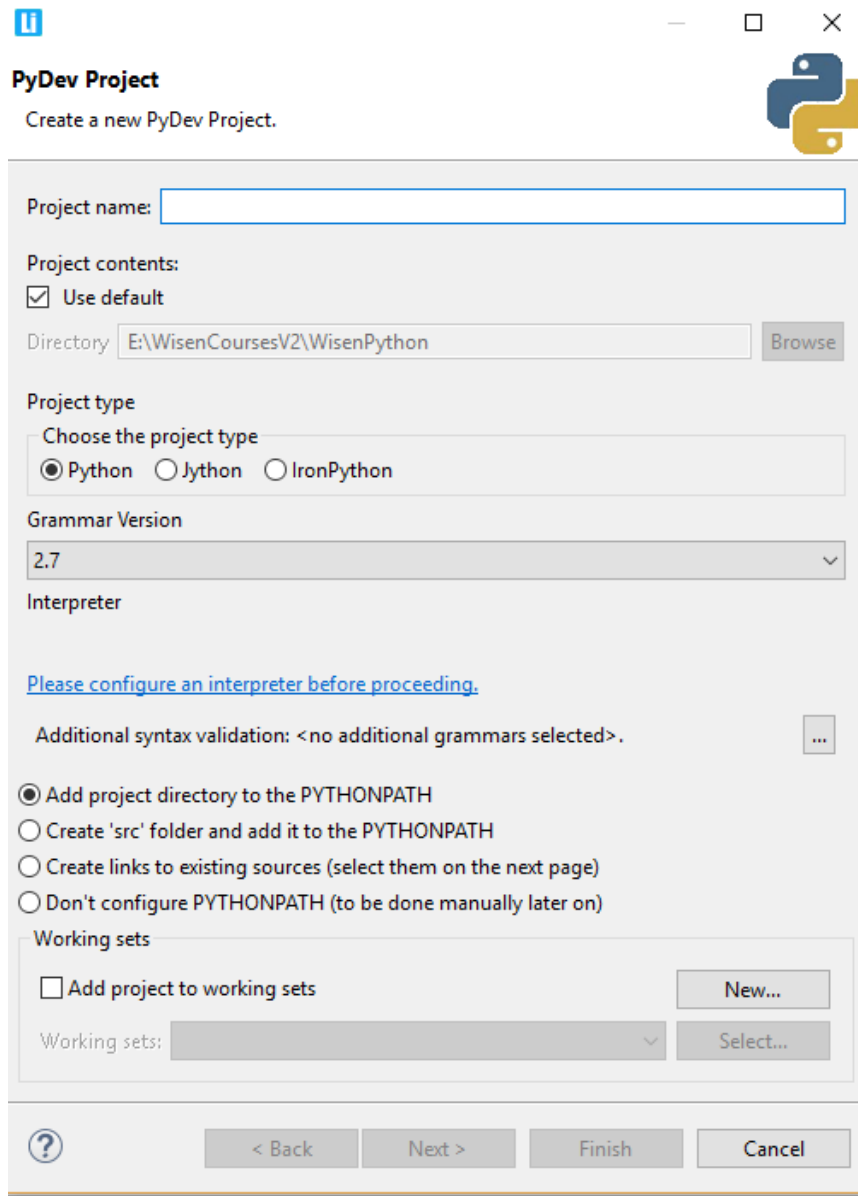
3. In the above screen, **Check Eclipse Classic** and click on **Ok**. This action brings the below screen.



4. In the above screen, click on **File -> New -> PyDev Project** like below



5. After **clicking the PyDev Project**, the below screen appears.



The image shows the 'PyDev Project' dialog box in an IDE. It has a title bar with a blue 'i' icon and standard window controls. The main title is 'PyDev Project' with a subtitle 'Create a new PyDev Project.' and the Python logo. The dialog is organized into several sections: 'Project name:' with a text input field; 'Project contents:' with a checked 'Use default' checkbox and a 'Directory' field containing 'E:\WisenCoursesV2\WisenPython' with a 'Browse' button; 'Project type' with a 'Choose the project type' label and three radio buttons: 'Python' (selected), 'Jython', and 'IronPython'; 'Grammar Version' with a dropdown menu showing '2.7'; 'Interpreter' with a blue link 'Please configure an interpreter before proceeding.' and a text field 'Additional syntax validation: <no additional grammars selected>' with an ellipsis button; a group of four radio buttons for PYTHONPATH configuration, with 'Add project directory to the PYTHONPATH' selected; and 'Working sets' with an unchecked 'Add project to working sets' checkbox, a 'New...' button, a 'Working sets:' dropdown, and a 'Select...' button. At the bottom are buttons for '?', '< Back', 'Next >', 'Finish', and 'Cancel'.

PyDev Project
Create a new PyDev Project.

Project name:

Project contents:
☒ Use default
Directory:

Project type
Choose the project type
☒ Python ☐ Jython ☐ IronPython

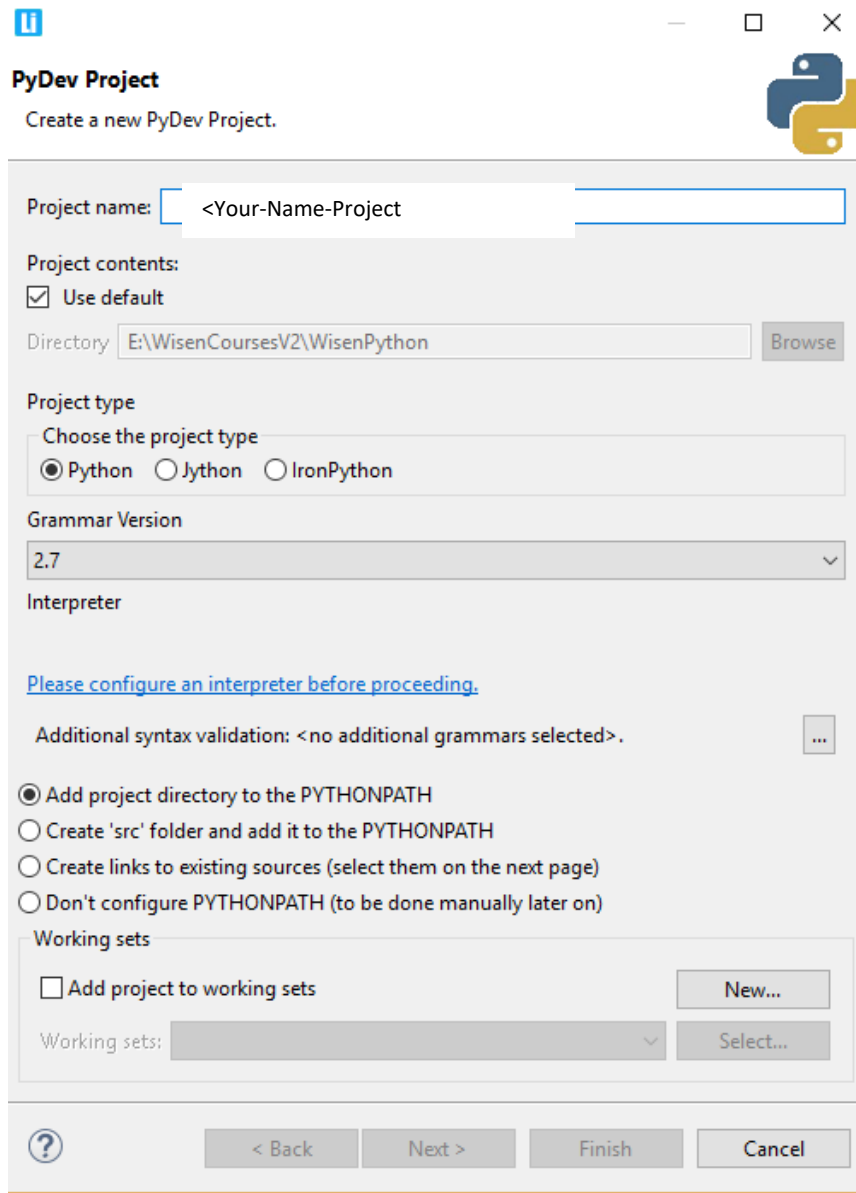
Grammar Version

Interpreter
[Please configure an interpreter before proceeding.](#)
Additional syntax validation: <no additional grammars selected>

☒ Add project directory to the PYTHONPATH
☐ Create 'src' folder and add it to the PYTHONPATH
☐ Create links to existing sources (select them on the next page)
☐ Don't configure PYTHONPATH (to be done manually later on)

Working sets
☐ Add project to working sets
Working sets:

6. In above screen, **Project Name** field, type <YourName>Project.



The image shows the 'PyDev Project' dialog box in an IDE. It has a title bar with a blue icon, a minus button, a maximize button, and a close button. The main title is 'PyDev Project' with a subtitle 'Create a new PyDev Project.' and the Python logo. The dialog is divided into several sections: 'Project name:' with a text field containing '<Your-Name-Project>'; 'Project contents:' with a checked 'Use default' checkbox and a 'Directory' field containing 'E:\WisenCoursesV2\WisenPython' with a 'Browse' button; 'Project type' with a 'Choose the project type' section containing three radio buttons: 'Python' (selected), 'Jython', and 'IronPython'; 'Grammar Version' with a dropdown menu showing '2.7'; 'Interpreter' with a link 'Please configure an interpreter before proceeding.' and a text field 'Additional syntax validation: <no additional grammars selected>' with a three-dot menu button; a section with four radio buttons for PYTHONPATH configuration: 'Add project directory to the PYTHONPATH' (selected), 'Create \'src\' folder and add it to the PYTHONPATH', 'Create links to existing sources (select them on the next page)', and 'Don't configure PYTHONPATH (to be done manually later on)'; and 'Working sets' with an unchecked 'Add project to working sets' checkbox, a 'New...' button, a 'Working sets:' dropdown menu, and a 'Select...' button. At the bottom, there is a question mark icon and four buttons: '< Back', 'Next >', 'Finish', and 'Cancel'.

PyDev Project
Create a new PyDev Project.

Project name:

Project contents:
☒ Use default

Directory:

Project type
Choose the project type
☒ Python ☐ Jython ☐ IronPython

Grammar Version
2.7

Interpreter
[Please configure an interpreter before proceeding.](#)

Additional syntax validation: <no additional grammars selected>

☒ Add project directory to the PYTHONPATH
☐ Create 'src' folder and add it to the PYTHONPATH
☐ Create links to existing sources (select them on the next page)
☐ Don't configure PYTHONPATH (to be done manually later on)

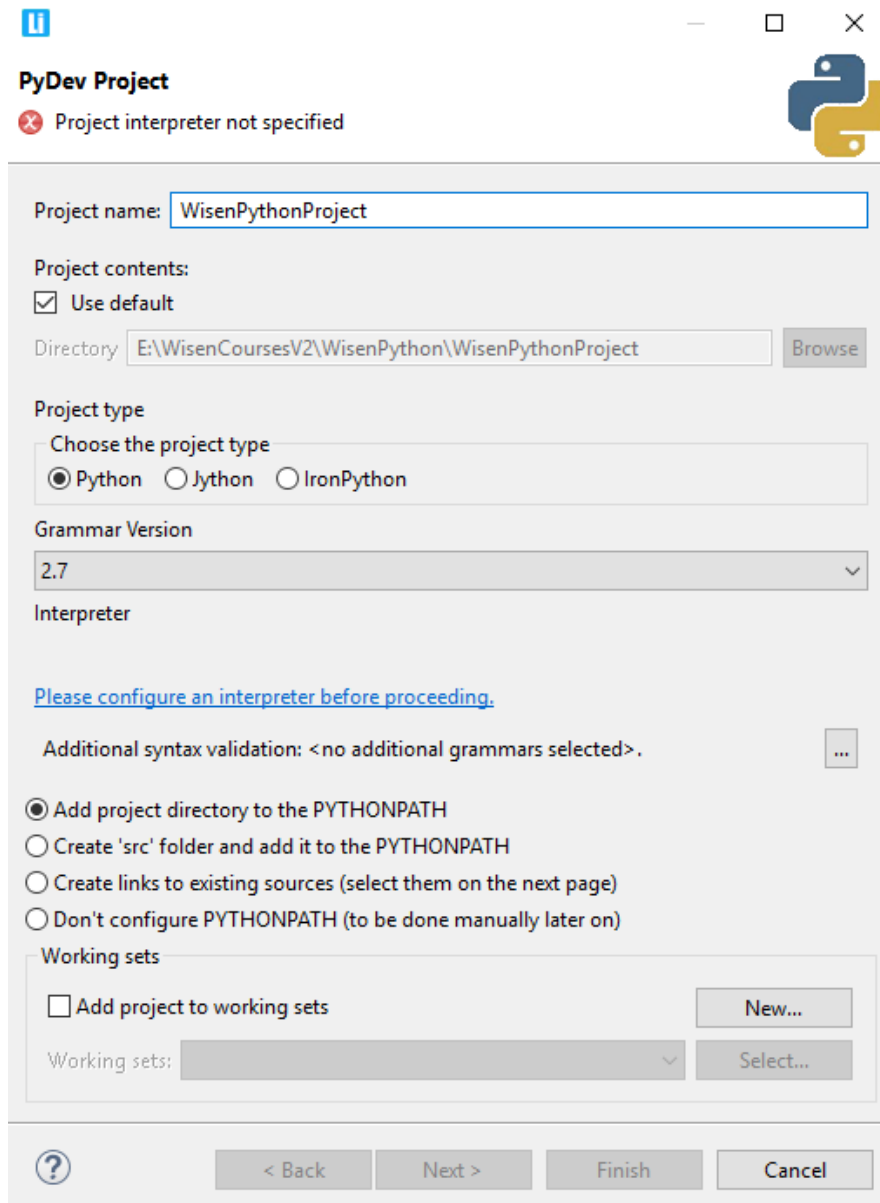
Working sets
☐ Add project to working sets

Working sets:

< Back Next > Finish Cancel

Note: from Now onwards **WisenPythonProject** refers to **<Your-Name-Project>**

7. The screen should looks like below



The image shows a 'PyDev Project' dialog box. At the top, there's a title bar with a blue icon, a minus button, a maximize button, and a close button. Below the title bar, the text 'PyDev Project' is followed by a red error icon and the message 'Project interpreter not specified'. To the right is the Python logo. The main area contains several sections: 'Project name:' with a text box containing 'WisenPythonProject'; 'Project contents:' with a checked 'Use default' checkbox and a 'Directory' text box containing 'E:\WisenCoursesV2\WisenPython\WisenPythonProject' with a 'Browse' button; 'Project type' with a 'Choose the project type' label and three radio buttons: 'Python' (selected), 'Jython', and 'IronPython'; 'Grammar Version' with a dropdown menu showing '2.7'; 'Interpreter' section with a blue link 'Please configure an interpreter before proceeding.' and a text box 'Additional syntax validation: <no additional grammars selected>' with a three-dot menu button; four radio buttons for PYTHONPATH configuration: 'Add project directory to the PYTHONPATH' (selected), 'Create \'src\' folder and add it to the PYTHONPATH', 'Create links to existing sources (select them on the next page)', and 'Don't configure PYTHONPATH (to be done manually later on)'; and 'Working sets' with an unchecked 'Add project to working sets' checkbox, a 'New...' button, a 'Working sets:' dropdown menu, and a 'Select...' button. At the bottom are buttons for '?', '< Back', 'Next >', 'Finish', and 'Cancel'.

PyDev Project

Project interpreter not specified

Project name: WisenPythonProject

Project contents:

☒ Use default

Directory: E:\WisenCoursesV2\WisenPython\WisenPythonProject Browse

Project type

Choose the project type

☒ Python ☐ Jython ☐ IronPython

Grammar Version

2.7

Interpreter

[Please configure an interpreter before proceeding.](#)

Additional syntax validation: <no additional grammars selected> ...

☒ Add project directory to the PYTHONPATH

☐ Create 'src' folder and add it to the PYTHONPATH

☐ Create links to existing sources (select them on the next page)

☐ Don't configure PYTHONPATH (to be done manually later on)

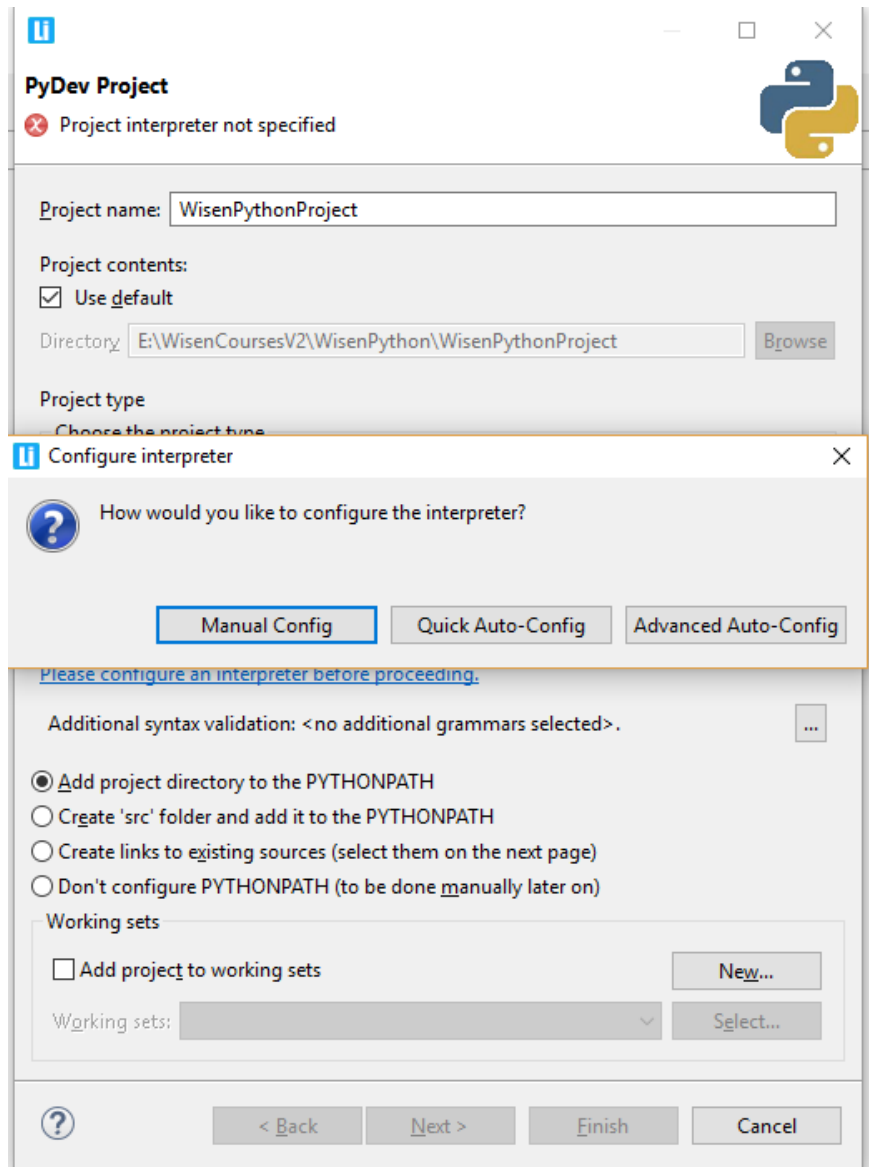
Working sets

☐ Add project to working sets New...

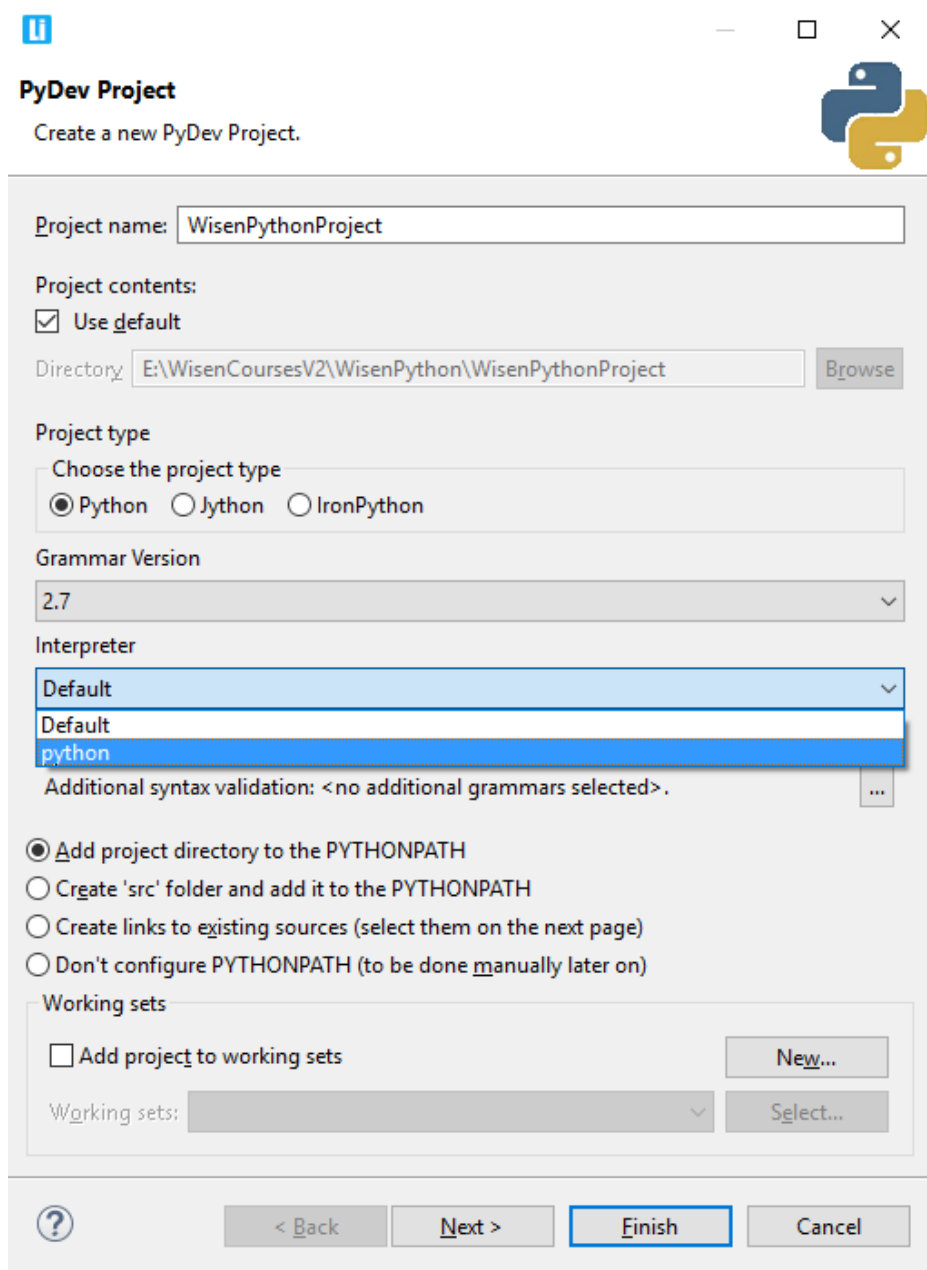
Working sets: Select...

? < Back Next > Finish Cancel

8. In the above screen, Please configure an interpreter before proceeding link. This action brings the below screen.



9. In the above screen, **click on Quick Auto Config** button. This action brings the below screen.



The image shows the 'PyDev Project' dialog box in an IDE. The window title is 'PyDev Project' with a Python logo icon. Below the title bar, it says 'Create a new PyDev Project.' The dialog contains several sections: 'Project name' with a text field containing 'WisenPythonProject'; 'Project contents' with a checked 'Use default' checkbox and a 'Directory' field containing 'E:\WisenCoursesV2\WisenPython\WisenPythonProject' with a 'Browse' button; 'Project type' with a 'Choose the project type' label and three radio buttons: 'Python' (selected), 'Jython', and 'IronPython'; 'Grammar Version' with a dropdown menu showing '2.7'; 'Interpreter' with a dropdown menu showing 'Default' and a list box below it showing 'python' selected; 'Additional syntax validation' with a text field containing '<no additional grammars selected>.' and a '...' button; four radio buttons for PYTHONPATH configuration: 'Add project directory to the PYTHONPATH' (selected), 'Create 'src' folder and add it to the PYTHONPATH', 'Create links to existing sources (select them on the next page)', and 'Don't configure PYTHONPATH (to be done manually later on)'; and 'Working sets' with an unchecked 'Add project to working sets' checkbox, a 'New...' button, a 'Working sets:' dropdown, and a 'Select...' button. At the bottom, there are buttons for '< Back', 'Next >', 'Finish' (highlighted with a blue border), and 'Cancel'.

PyDev Project
Create a new PyDev Project.

Project name:

Project contents:
☒ Use default
Directory:

Project type
Choose the project type
☒ Python ☐ Jython ☐ IronPython

Grammar Version

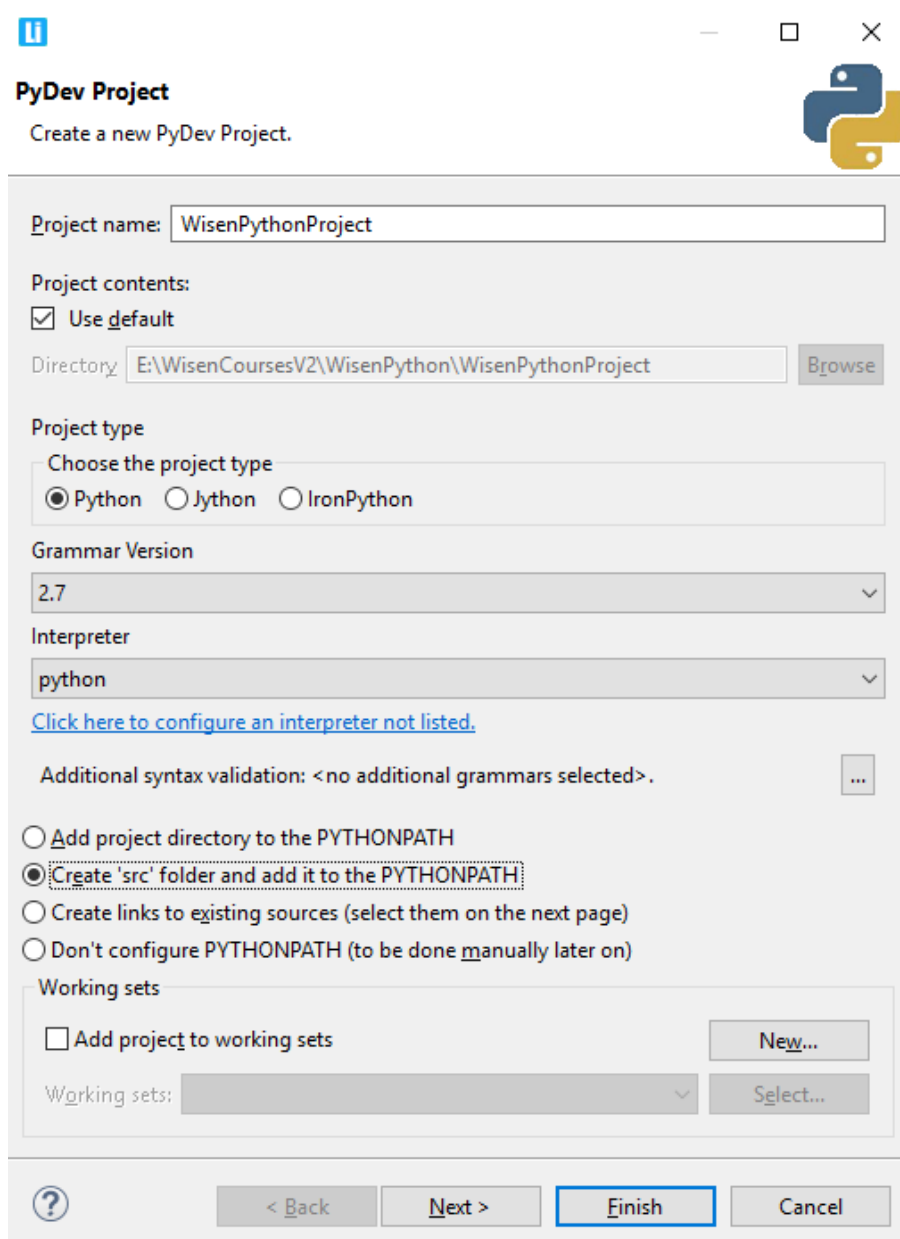
Interpreter

Additional syntax validation: <no additional grammars selected>

☒ Add project directory to the PYTHONPATH
☐ Create 'src' folder and add it to the PYTHONPATH
☐ Create links to existing sources (select them on the next page)
☐ Don't configure PYTHONPATH (to be done manually later on)

Working sets
☐ Add project to working sets
Working sets:

10. In the above screen, **select python** in **Interpreter dropdownlist** and also **Check Create 'src' folder and add it to the PYTHONPATH** radio button like below:



The image shows the 'PyDev Project' dialog box in an IDE. It has a title bar with a question mark icon and standard window controls. The main area is titled 'PyDev Project' with a subtitle 'Create a new PyDev Project.' and a Python logo. The 'Project name' field contains 'WisenPythonProject'. Under 'Project contents', the 'Use default' checkbox is checked. The 'Directory' field shows 'E:\WisenCoursesV2\WisenPython\WisenPythonProject' with a 'Browse' button. The 'Project type' section has a 'Choose the project type' label and three radio buttons: 'Python' (selected), 'Jython', and 'IronPython'. The 'Grammar Version' dropdown is set to '2.7'. The 'Interpreter' dropdown is set to 'python', with a link below it that says 'Click here to configure an interpreter not listed.' The 'Additional syntax validation' section shows '<no additional grammars selected>' with an ellipsis button. There are four radio buttons for PYTHONPATH configuration: 'Add project directory to the PYTHONPATH', 'Create \'src\' folder and add it to the PYTHONPATH' (selected), 'Create links to existing sources (select them on the next page)', and 'Don't configure PYTHONPATH (to be done manually later on)'. The 'Working sets' section has an 'Add project to working sets' checkbox and a 'New...' button. Below it, the 'Working sets:' dropdown is empty, and there is a 'Select...' button. At the bottom, there are four buttons: a help icon, '< Back', 'Next >', and 'Finish' (which is highlighted with a blue border), and a 'Cancel' button.

PyDev Project
Create a new PyDev Project.

Project name:

Project contents:

☒ Use default

Directory:

Project type

Choose the project type

☒ Python ☐ Jython ☐ IronPython

Grammar Version

Interpreter

[Click here to configure an interpreter not listed.](#)

Additional syntax validation: <no additional grammars selected>

☐ Add project directory to the PYTHONPATH

☒ Create 'src' folder and add it to the PYTHONPATH

☐ Create links to existing sources (select them on the next page)

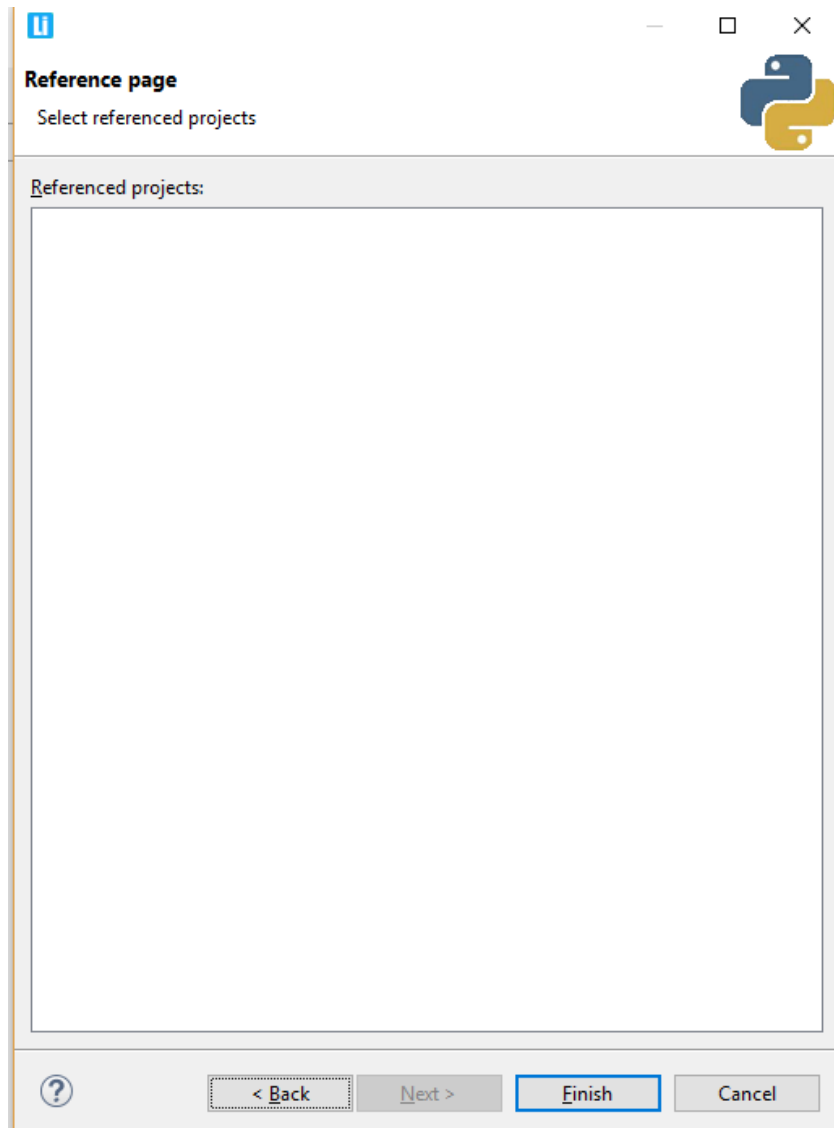
☐ Don't configure PYTHONPATH (to be done manually later on)

Working sets

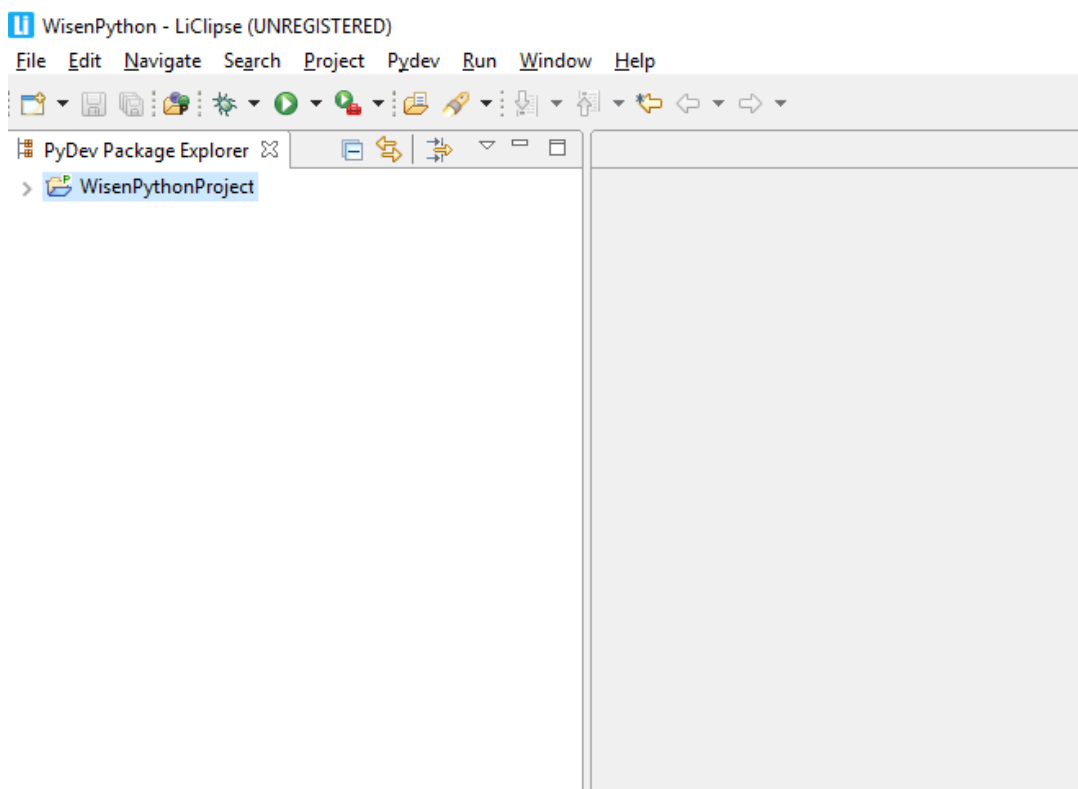
☐ Add project to working sets

Working sets:

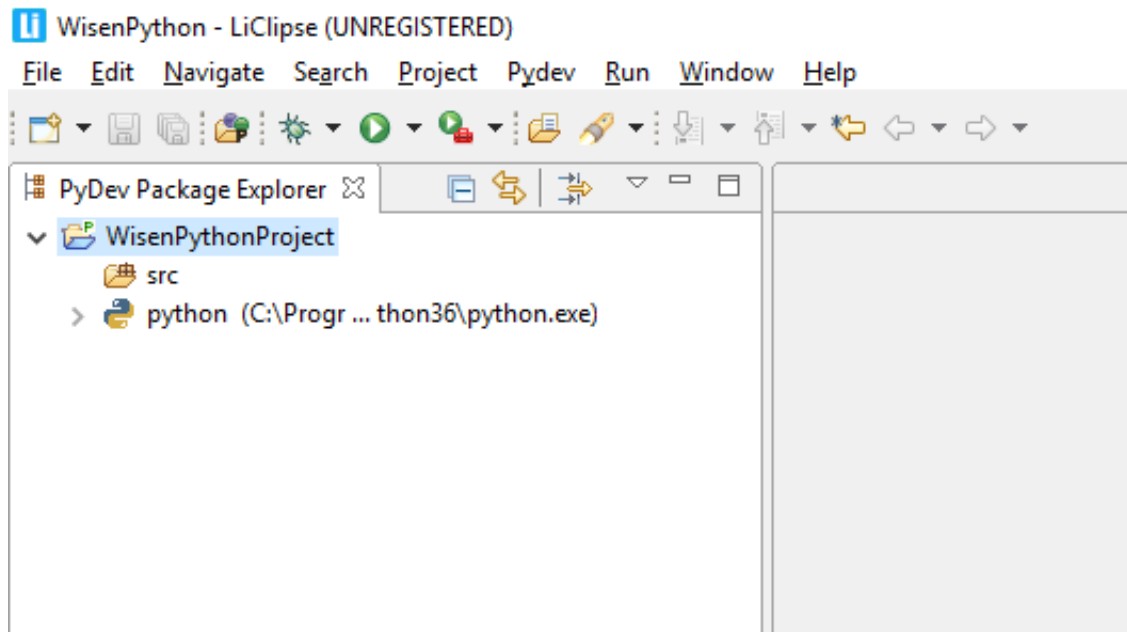
11. Click on **Next Button**. This action brings the below screen



12. Click on **Next Button**. This action brings the below screen



13. Click on **Arrow Button before to WisenPythonProject**. This action brings the below screen

**Program Output****What you learnt from this program?**