MAWLANA BHASHANI SCIENCE AND TECHNOLOGY UNIVERSITY,

Santosh, Tangail -1902

Lab Report No	**:**	03
Lab Report Name	**:**	Introduction to python
Course Name	**:**	Computer Networks Lab

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Introduction to Python

Objective :

- Setup python environment for programing.
- Learn the basics of python.
- Create and run basic examples using python.

Theory :

Definition of Python: Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Its high-level built in data structures, combined with dynamic typing and dynamic binding, make it very attractive for Rapid Application Development, as well as for use as a scripting or glue language to connect existing components together.

Main Features of Python:

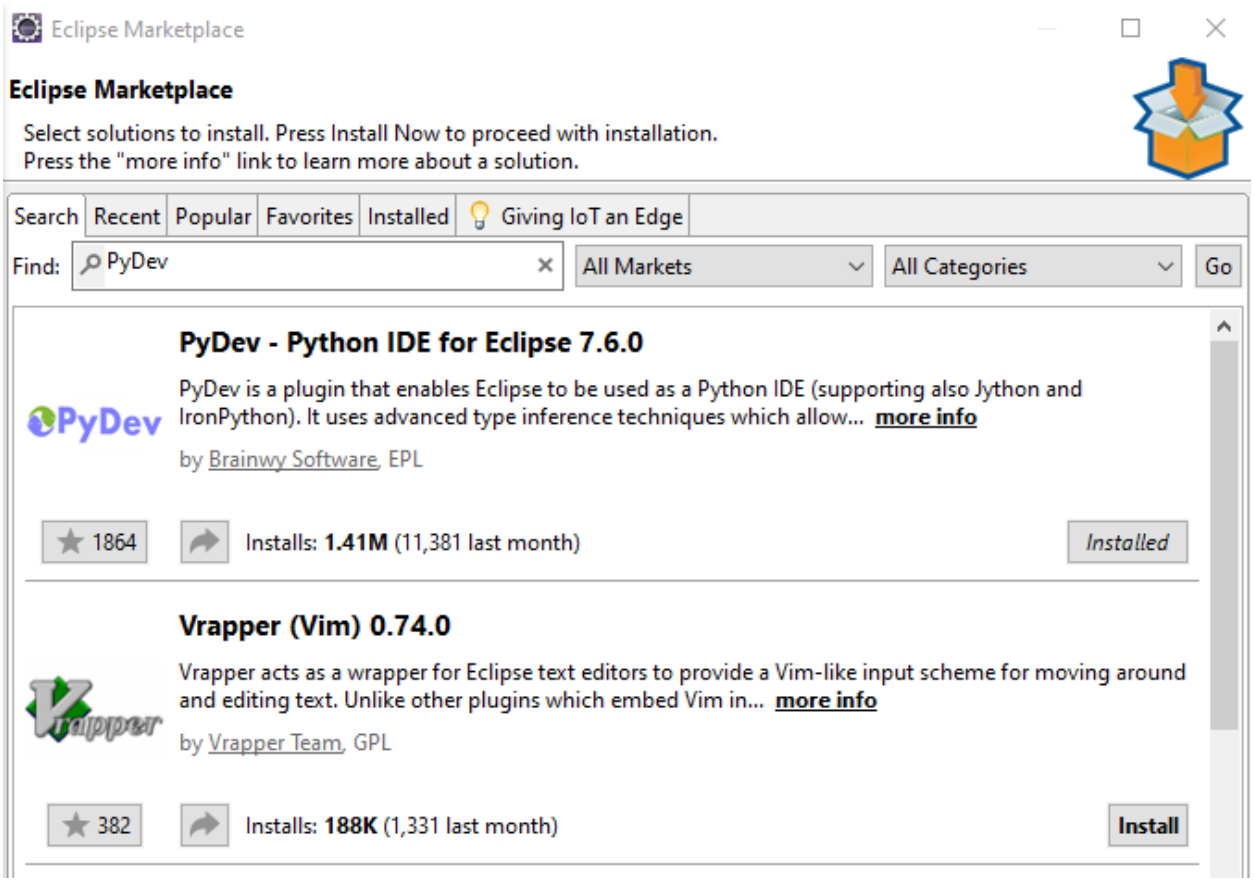
- Easy to code
- Free and Open Source
- Object-Oriented Language
- GUI Programming Support
- High-Level Language
- Extensible feature
- Python is Portable language
- Python is Integrated language
- Interpreted Language
- Large Standard Library
- Dynamically Typed Language

Setup of Python Environment :

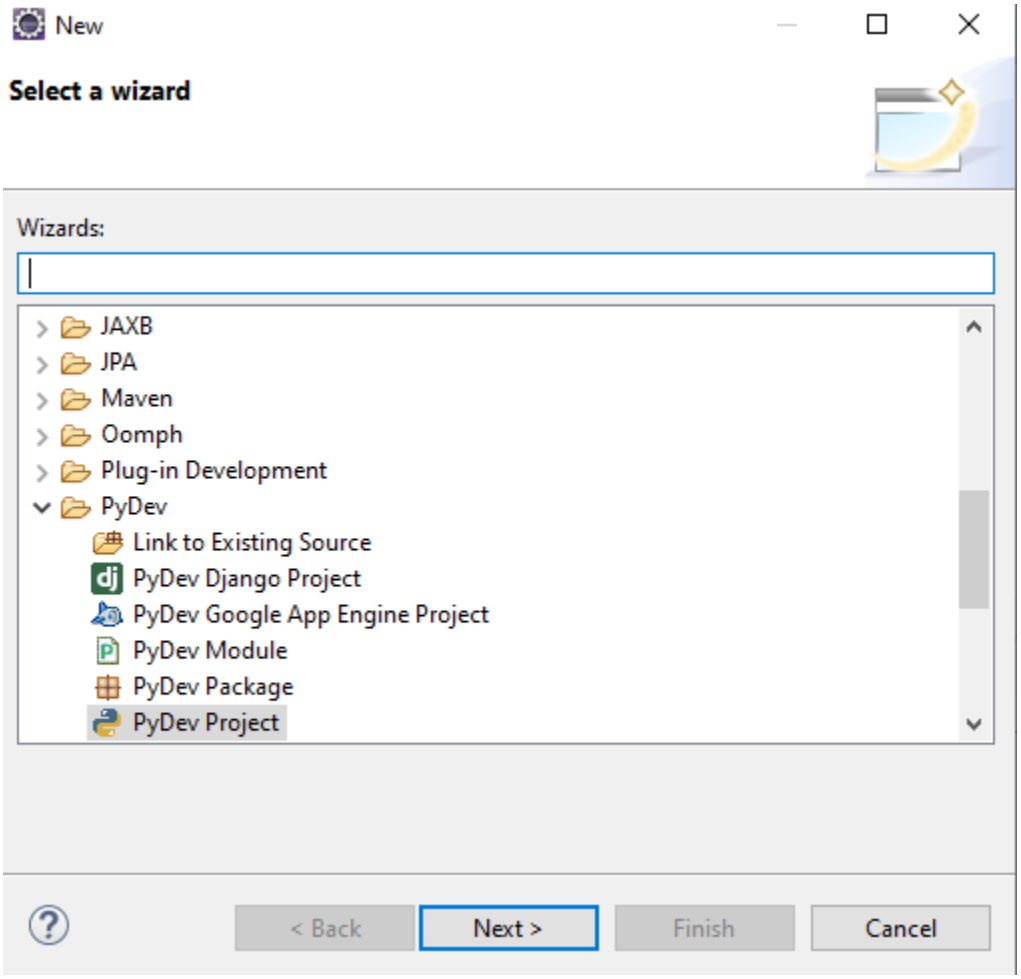
Step 1: Open Eclipse and setup a correct access to Internet.

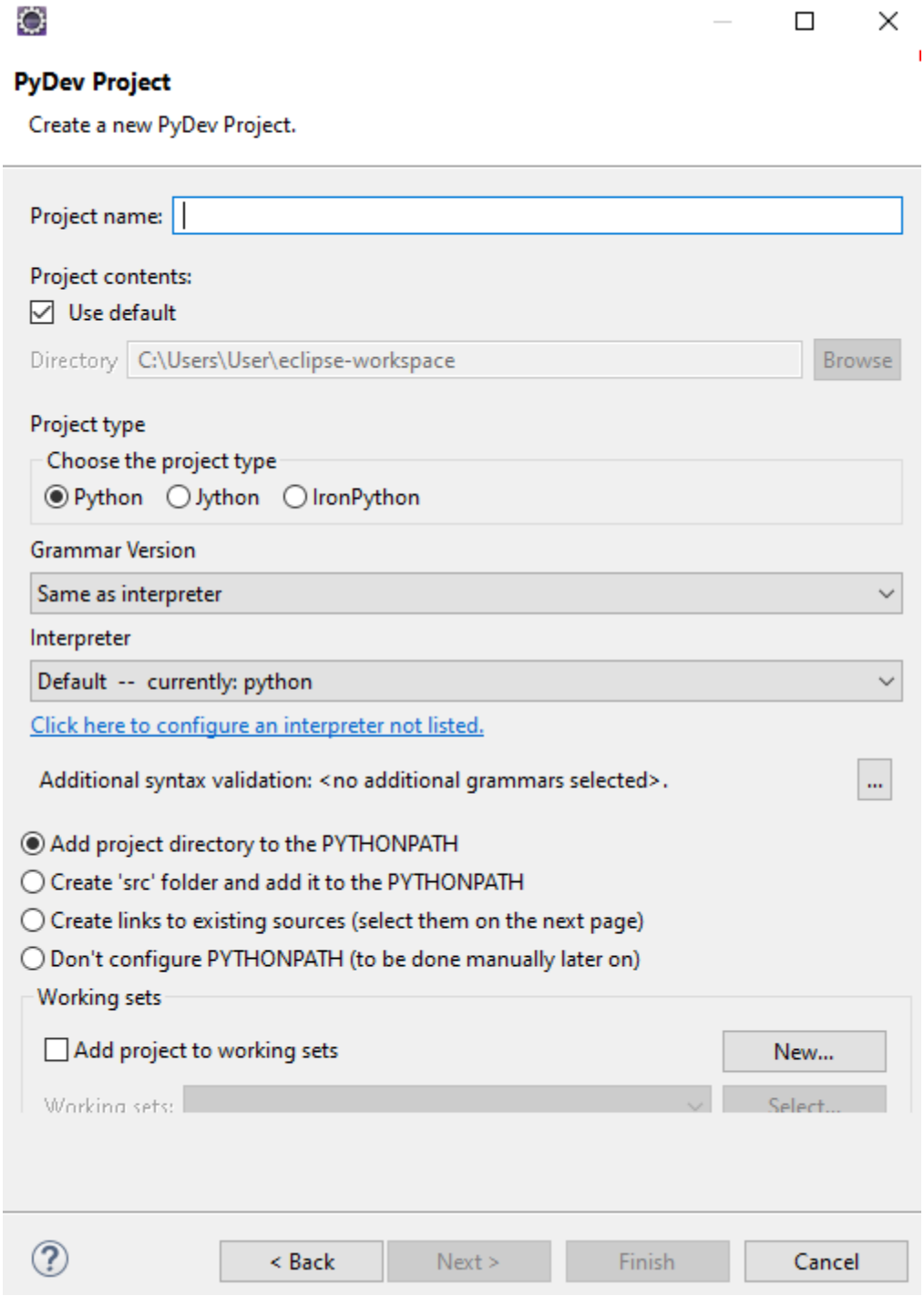
Step 2: Installing python environment using Eclipse Graphical Interface.

To install PyDev, we need to use **Help > Eclipse Marketplace** and installed PyDev – Python IDE for Eclipse 7.6.0.

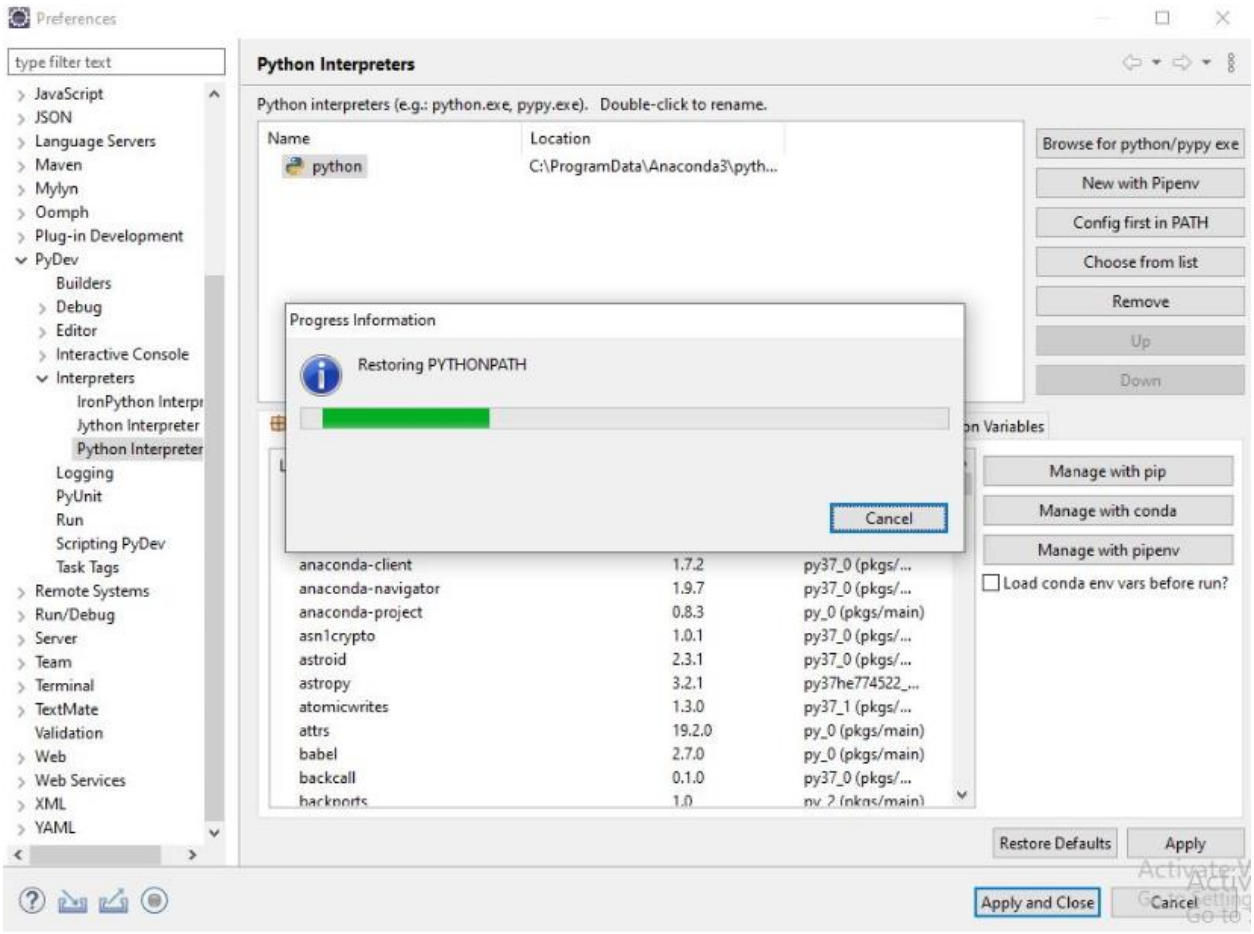

Eclipse Marketplace
Eclipse Marketplace
Select solutions to install. Press Install Now to proceed with installation.
Press the "more info" link to learn more about a solution.
Search
Recent
Popular
Favorites
Installed
Giving IoT an Edge
Find:
PyDev
All Markets
All Categories
Go
PyDev - Python IDE for Eclipse 7.6.0
PyDev is a plugin that enables Eclipse to be used as a Python IDE (supporting also Jython and IronPython). It uses advanced type inference techniques which allow... more info
by Brainwy Software, EPL
1864
Installs: 1.41M (11,381 last month)
Installed
Vrapper (Vim) 0.74.0
Vrapper acts as a wrapper for Eclipse text editors to provide a Vim-like input scheme for moving around and editing text. Unlike other plugins which embed Vim in... more info
by Vrapper Team, GPL
382
Installs: 188K (1,331 last month)
Install

Step 3 : After installing PyDev, have to go **File > New > Other > PyDev > PyDev Project.**

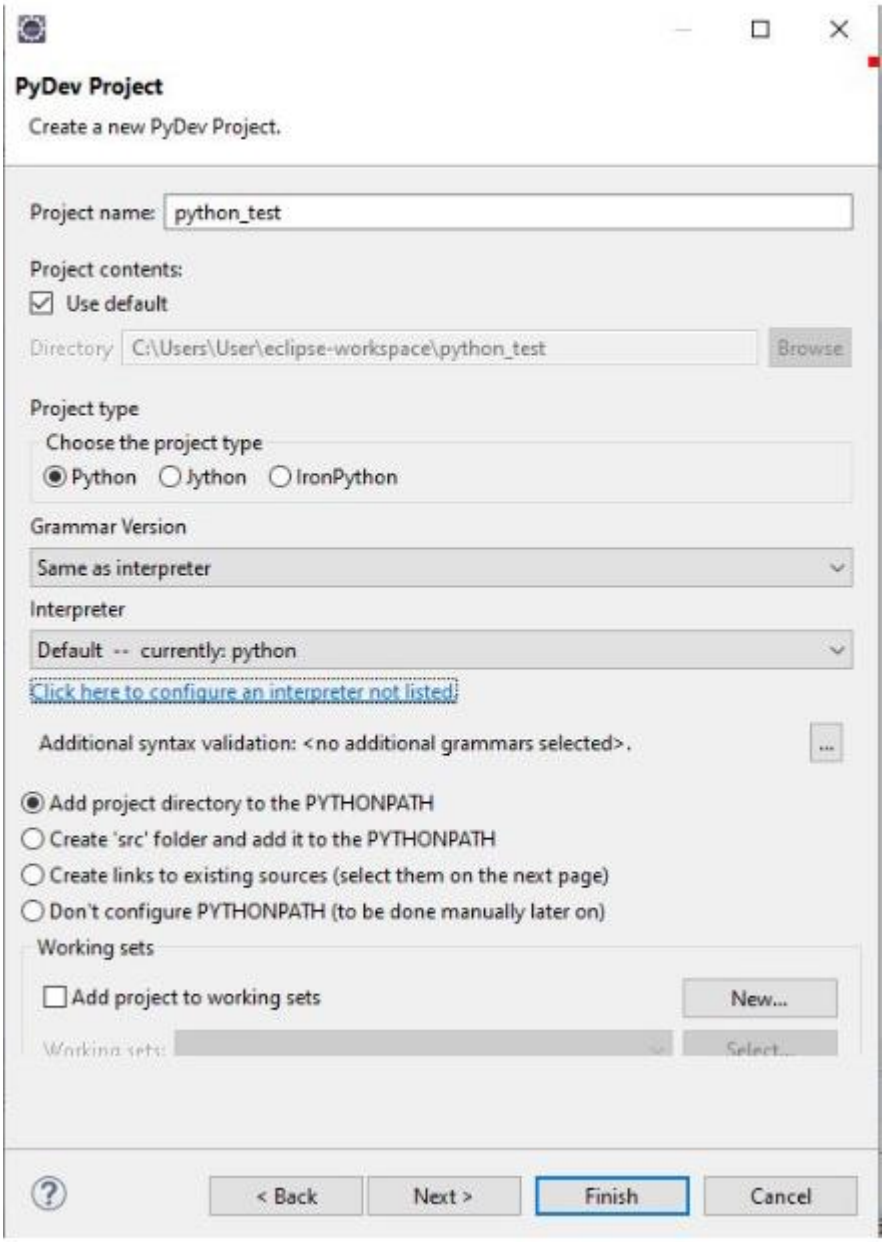



PyDev Project
Create a new PyDev Project.
Project name:
Project contents:
Use default
Directory
C:\Users\User\eclipse-workspace
Browse
Project type
Choose the project type
Python
Jython
IronPython
Grammar Version
Same as interpreter
Interpreter
Default -- currently: python
Click here to configure an 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
New...
Working sets:
Select...
< Back
Next >
Finish
Cancel

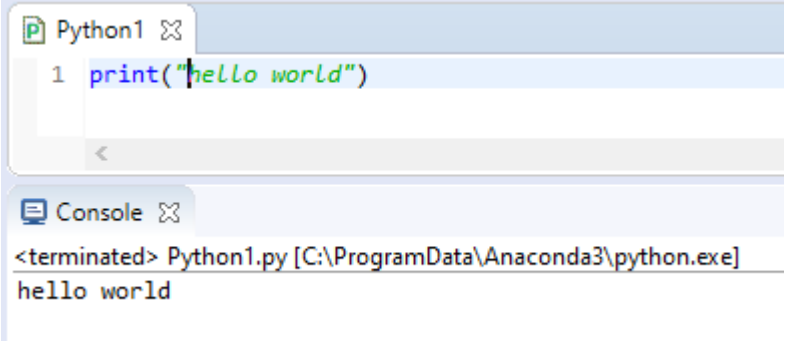
Step 4 : To configure an interpreter , have to go “click here to configure an interpreter not listed” and select “Config first in PATH”.



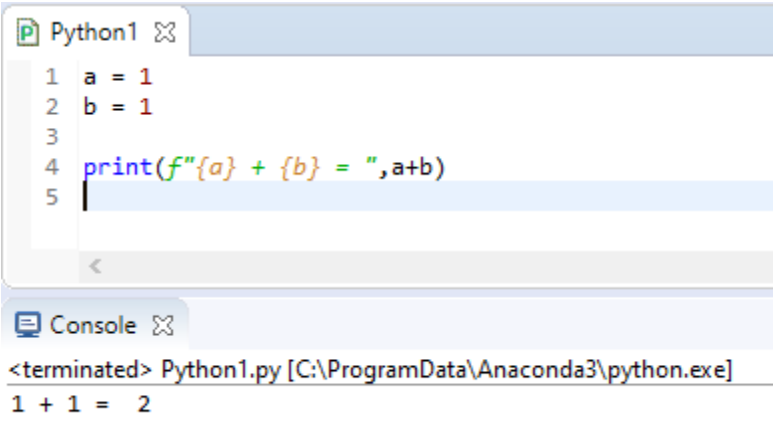
Step 5 : Then, give a project name and click “Finish” button.



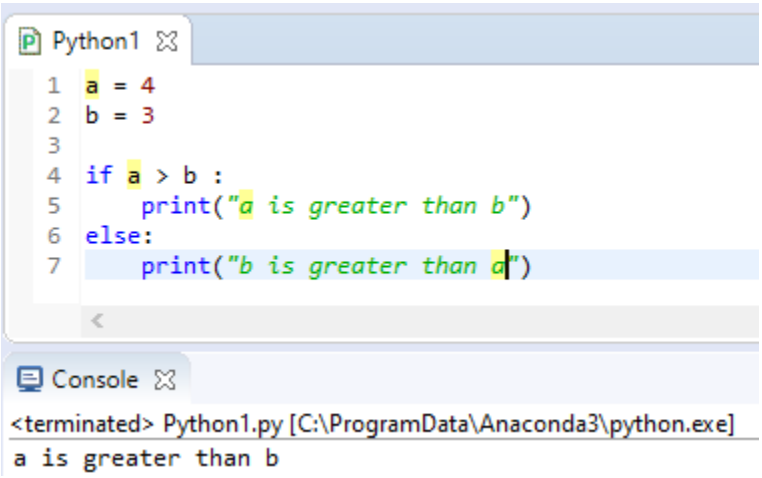
Exercise 4.1.2: Write a Hello World program



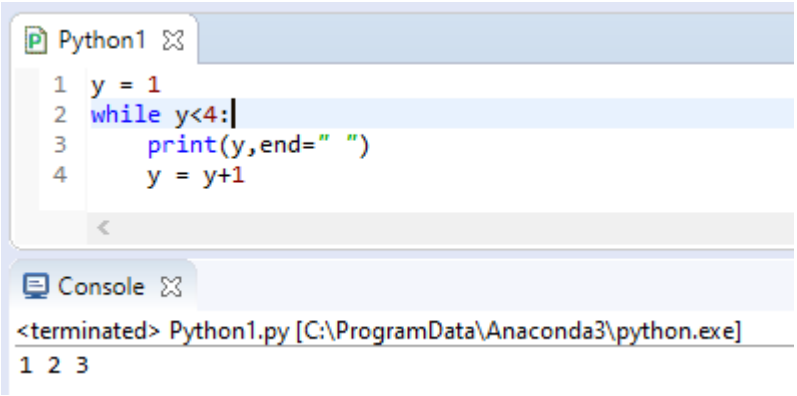
Exercise 4.1.3: Compute 1+1



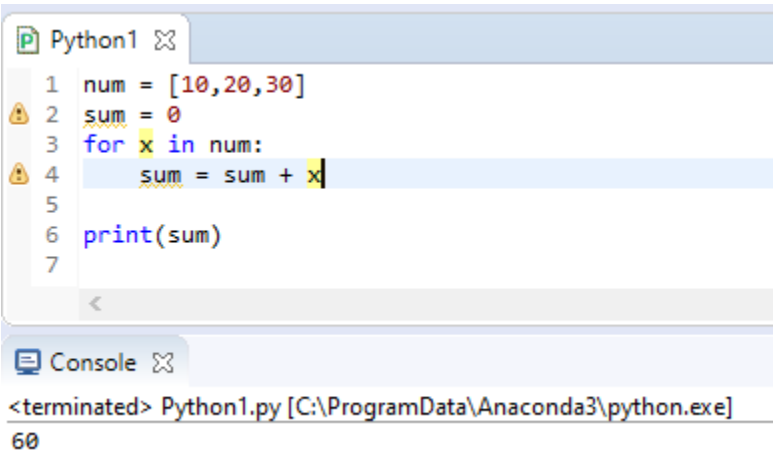
Exercise 4.2.2: The if statement:



Exercise 4.2.3: The while Statement



Exercise 4.2.4: The for Statement



Conclusion : In this lab, we have learned how to setup python environment for programing and learn basic program of python.

Python is a popular programming language.

It is used for:

- web development (server-side),
- software development,
- mathematics,
- system scripting.
- Python works on different platforms (Windows, Mac, Linux, Raspberry Pi, etc).

Python Syntax compared to other programming languages

- Python was designed for readability, and has some similarities to the English language with influence from mathematics.
- Python uses new lines to complete a command, as opposed to other programming languages which often use semicolons or parentheses.
- Python relies on indentation, using whitespace, to define scope; such as the scope of loops, functions and classes. Other programming languages often use curly-brackets for this purpose.

Python has syntax that allows developers to write programs with fewer lines than some other programming languages.Python runs on an interpreter system, meaning that code can be executed as soon as it is written. This means that prototyping can be very quick.Python can be treated in a procedural way, an object-oriented way or a functional way.