MAWLANA BHASHANI SCIENCE AND TECHNOLOGY UNIVERSITY

Santosh, Tangail -1902

Lab Report No	**:**	04
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 :

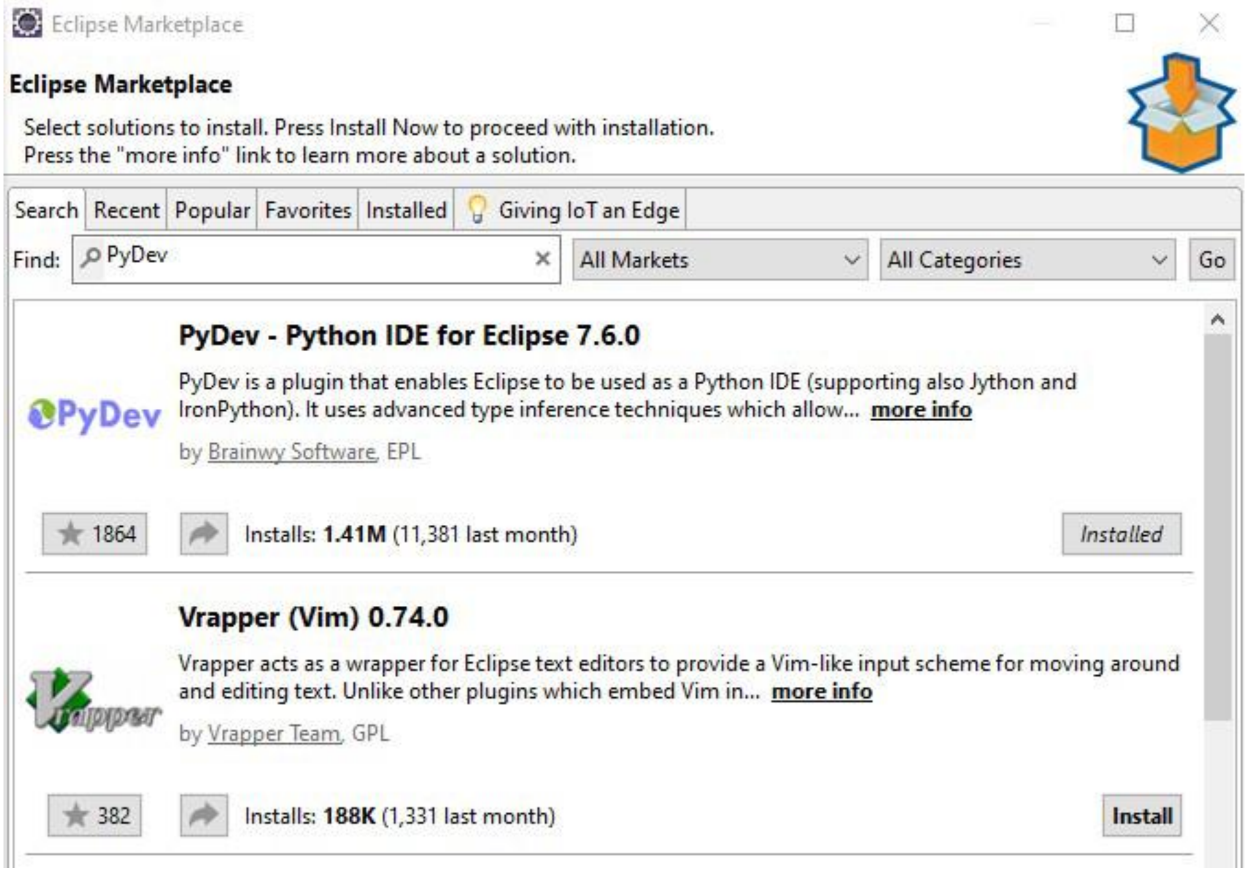
Definition of Python: Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Its high-level built in data structures, combined with dynamic typing and dynamic binding, make it very attractive for Rapid Application Development, as well as for use as a scripting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

Find: PyDev

All Markets

All Categories

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**

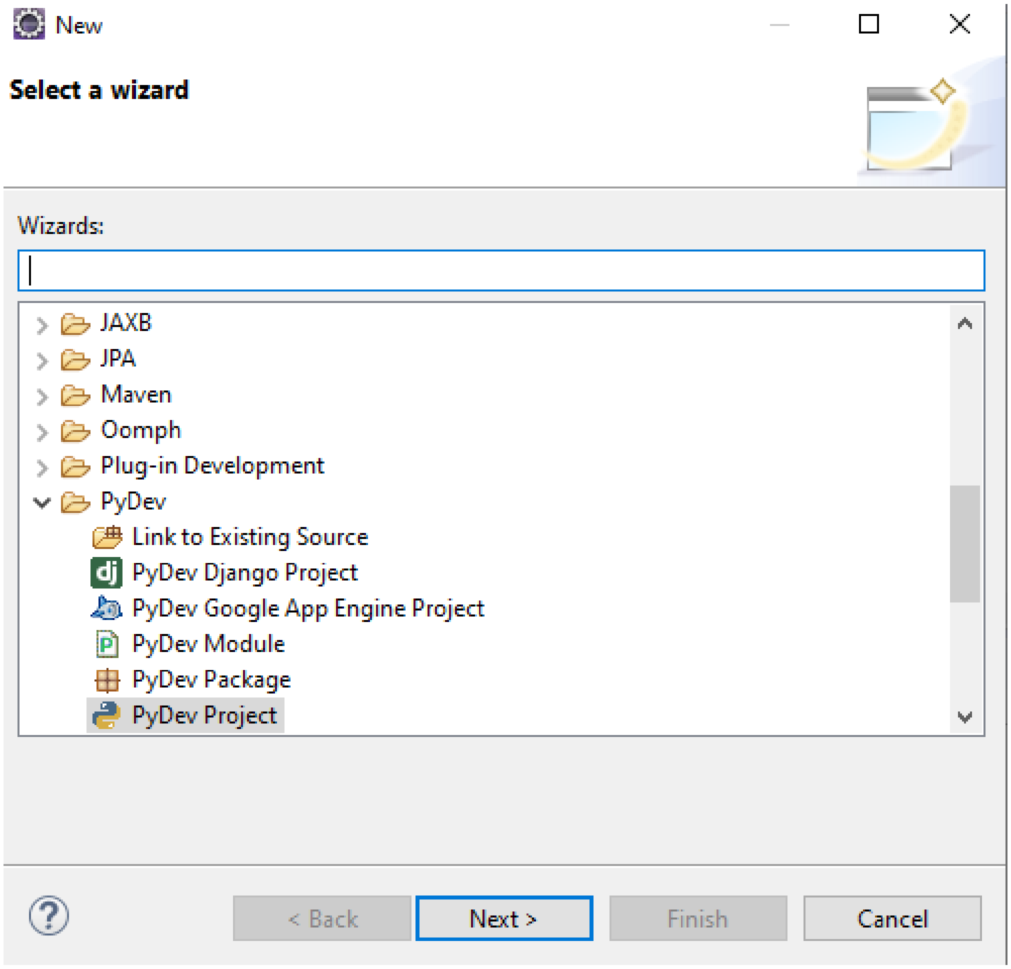
by Vrapper Team, GPL

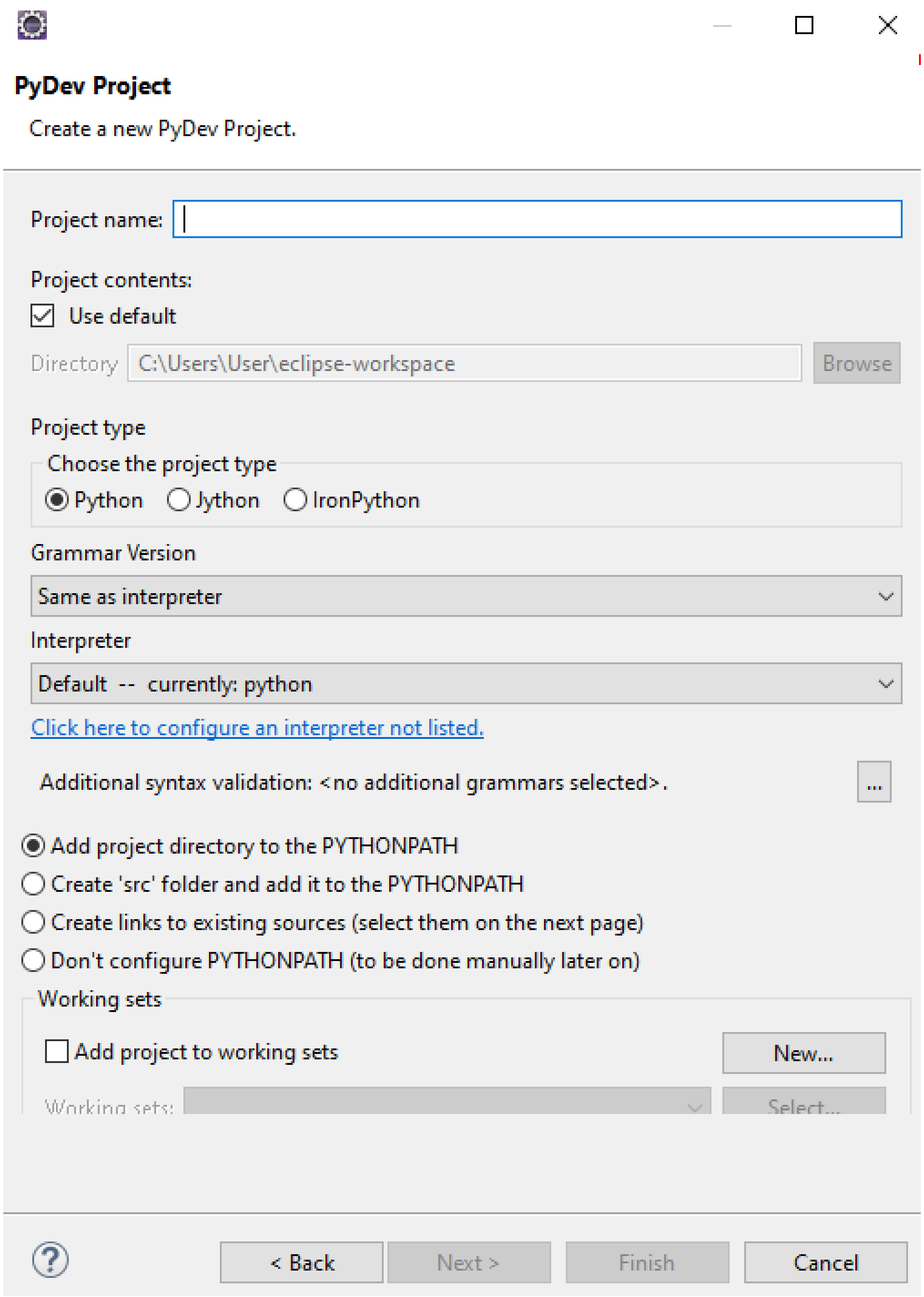
★ 382

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

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)

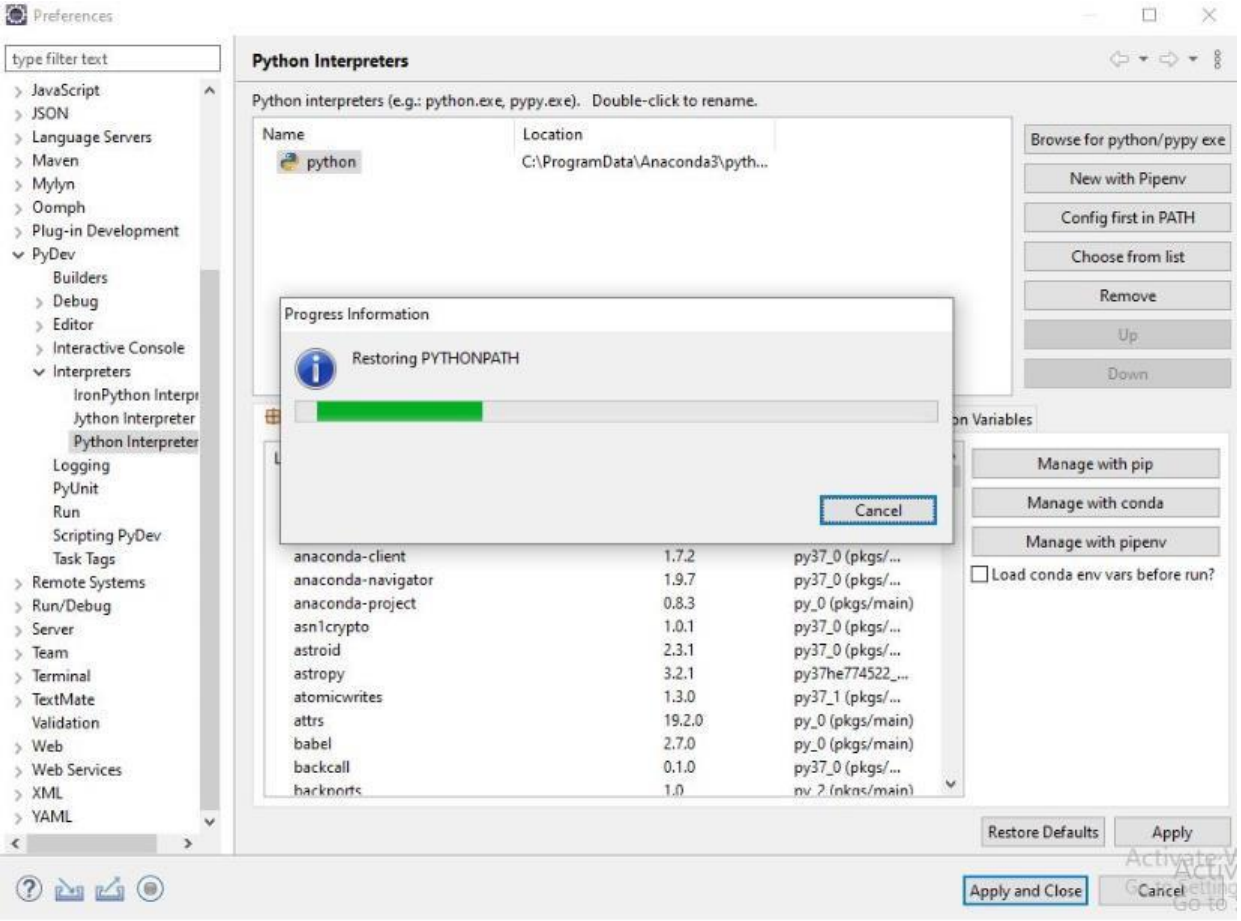
○ Don't configure PYTHONPATH (to be done manually later on)

Working sets

□ Add project to working sets

Working sets:

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



Python interpreters (e.g.: python.exe, pypy.exe). Double-click to rename.

Name	Location
python	C:\ProgramData\Anaconda3\pyth...

Progress Information

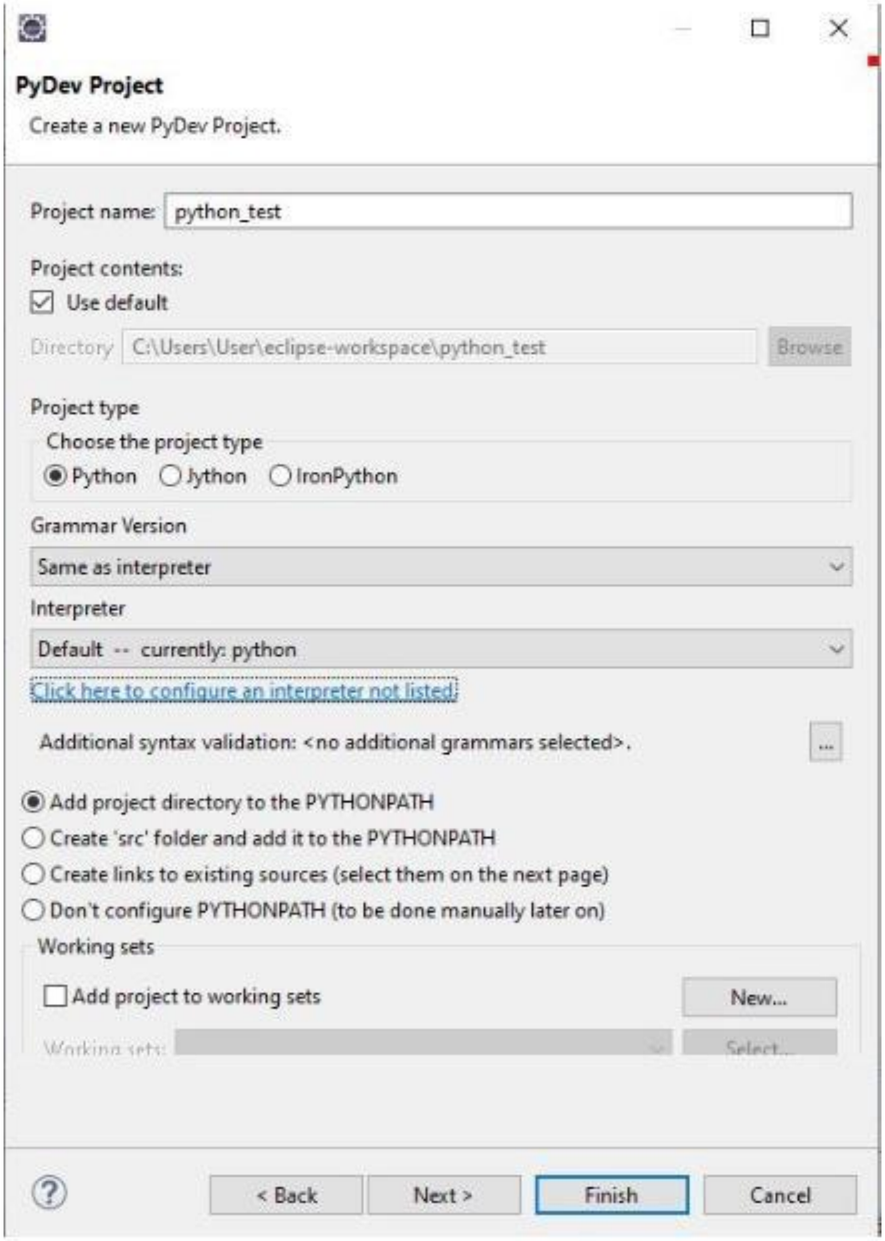
Restoring PYTHONPATH

Cancel

anaconda-client	1.7.2	py37_0 (pkgs/...
anaconda-navigator	1.9.7	py37_0 (pkgs/...
anaconda-project	0.8.3	py_0 (pkgs/main)
asn1crypto	1.0.1	py37_0 (pkgs/...
astroid	2.3.1	py37_0 (pkgs/...
astropy	3.2.1	py37he774522_...
atomicwrites	1.3.0	py37_1 (pkgs/...
attrs	19.2.0	py_0 (pkgs/main)
babel	2.7.0	py_0 (pkgs/main)
backcall	0.1.0	py37_0 (pkgs/...
backports	1.0	py_2 (pkgs/main)

□ Load conda env vars before run?

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



PyDev Project

Create a new PyDev Project.

Project name: python_test

Project contents:

☑ Use default

Directory C:\Users\User\eclipse-workspace\python_test

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)

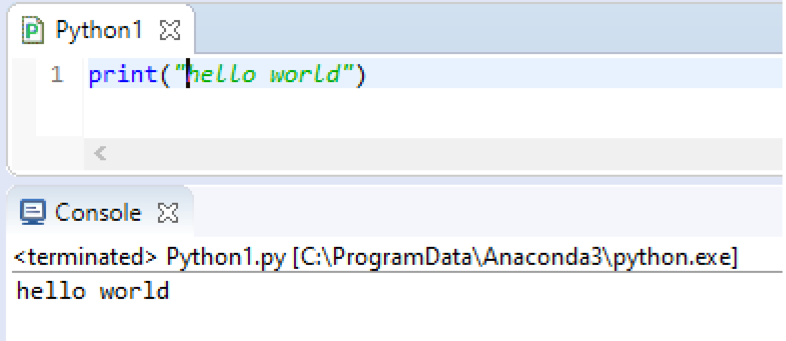
○ Don't configure PYTHONPATH (to be done manually later on)

Working sets

☐ Add project to working sets

Working sets:

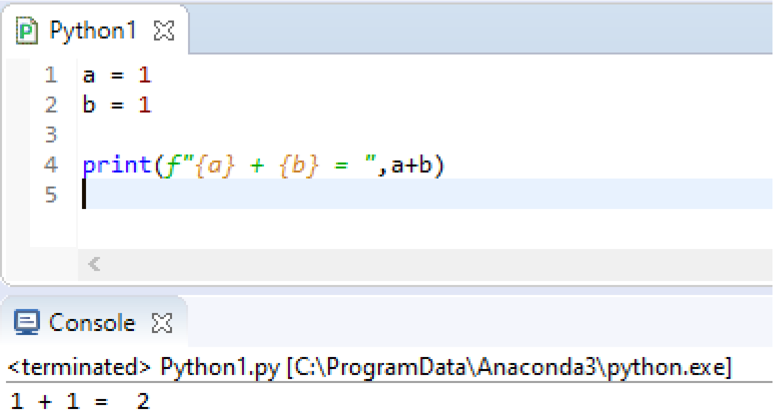
Exercise 4.1.2: Write a Hello World program



```python
print("hello world")
```

```
<terminated> Python1.py [C:\ProgramData\Anaconda3\python.exe]
hello world
```

Exercise 4.1.3: Compute 1+1



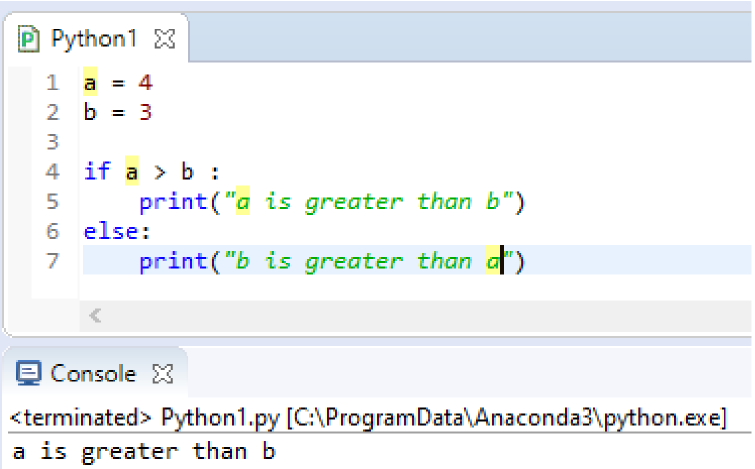
```python
a = 1
b = 1

print(f"{a} + {b} = ",a+b)

```

```
<terminated> Python1.py [C:\ProgramData\Anaconda3\python.exe]
1 + 1 =  2
```

Exercise 4.2.2: The if statement:

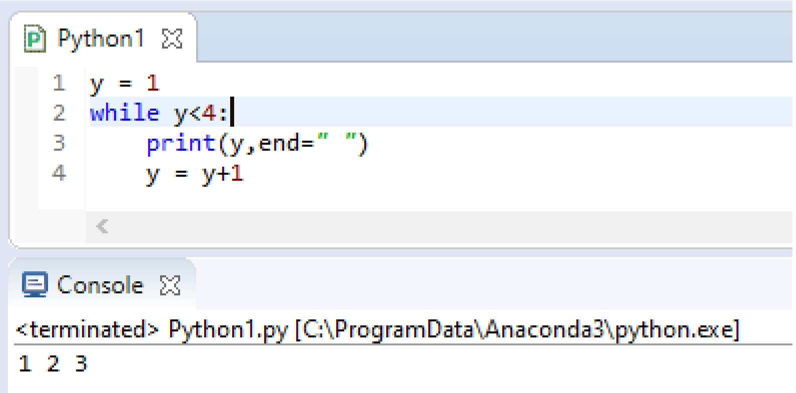


```python
a = 4
b = 3

if a > b :
    print("a is greater than b")
else:
    print("b is greater than a")
```

```
<terminated> Python1.py [C:\ProgramData\Anaconda3\python.exe]
a is greater than b
```

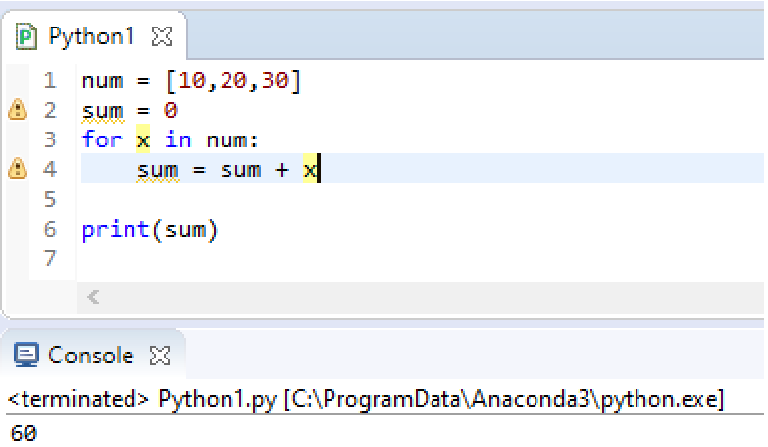
Exercise 4.2.3: The while Statement



```
y = 1
while y<4:
    print(y,end=" ")
    y = y+1
```

```
<terminated> Python1.py [C:\ProgramData\Anaconda3\python.exe]
1 2 3
```

Exercise 4.2.4: The for Statement



```
num = [10,20,30]
sum = 0
for x in num:
    sum = sum + x

print(sum)

```

```
<terminated> Python1.py [C:\ProgramData\Anaconda3\python.exe]
60
```