

**Exercise 1)** You can now enter some code for python to run:

Code

```
>>> print("Hello world") → print("Hello world")
```

What does the `print()` do?. What's it in python? terminal

Ans Print everything inside (" ")

Hello world

**Exercise 2)** Now, try to enter the following code in console to print Hello World and *Your name*.

Code

```
>>> print("Test123" → print("Test123" → terminal
... "Test123"
... );
```

What is happened and why? Ans it print Test 123 in terminal

Let's try another example below:

Code

```
>>> print("Hello world"); \
... print("My name is <YourName>"); → Hello world
... → My name is <Waris Damkham>
```

What does the \ do?. Ans \ mean new line command

**Exercise 3)** Strings can be combined together as follow.

`>>> print("Hello world" + "This is python class")`

Python does not add any whitespace between strings. What should we do?

Code

```
1 | print("Hello world" + "This is python class") before
2 | print("Hello world" + " " + "This is python class") After
```

Terminal

```
Hello worldThis is python class before
Hello world This is python class After
```

**Exercise 4)** Next, try the following command.

`>>> print(len("Hello world" + "This is python class")); \
... print(len("Helloworld"))`

Ans the len() function

returns the number  
of characters in the string

What are the outputs and what does the `len()` do?

32

10

terminal

Code

```
1 | print(len("Hello world" + " " + "This is python class")); \
2 | print(len("Helloworld"))
```

**Exercise 5)** Now, write the code to calculate summation of lengths of two String outputs from Exercise 4 together. What is the result?

```
main.py
1 print(len("Hello world" + " " + "This is python class") + len("Helloworld"))
2
```

42 terminal

**Exercise 6)** In python, variable can be initialized and assigned the value by:

>>> fruit = "Mango";  
>>> print(fruit);

>>> fruit = "Orange";

Ans

```
main
D:\i2\python
Orange
```

What is the output?

**Exercise 7)** Can we do the following commands? Why or Why not?

>>> print(animal);  
Ans: We can't because animal variable is define after the print command.  
>>> animal = "Cat";

**Exercise 8)** Try printing out the following numbers

>>> print(5);\n>>> print(1.55);\n>>> print(True);

Ans

```
D:\i2\python
5
1.55
True
```

**Exercise 9)** Try the following code.

>>> x = "100";\n>>> y = "250";\n>>> print(x+y);

Ans it is not correct  
because it is a string

Can you edit code in Exercise 9 and make it display the correct output?

```
terminal
main
D:\i2\p
100250
```

main.py

Code

```
x = "100"
y = "250"
print(int(x)+int(y))
```

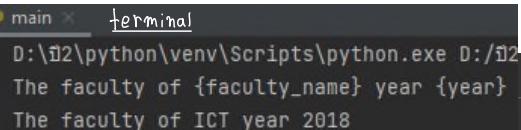
```
main
D:\i2
350
terminal
```

**Exercise 10)** Next, Let's try the following command.

```
>>> year = 2018 ; faculty_name = 'ICT';
>>> print("The faculty of {faculty_name} year {year}");
>>> print(f"The faculty of {faculty_name} year {year}");
```

What are the outputs and what does the f do?

Ans f-strings provide a way to embed expressions inside string literals

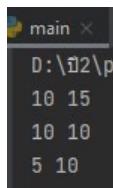


```
main ✘ terminal
D:\02\python\venv\Scripts\python.exe D:/02
The faculty of {faculty_name} year {year}
The faculty of ICT year 2018
```

**Exercise 11)** Determine the output of the following code:

Ans

```
>>> x = 10.25
>>> y = "15"
>>> print(int(x), int(y))
>>> y = int(x)
>>> x = int(y)
>>> print(x, y)
>>> x = 5
>>> print(x, y)
```



```
D:\02\p
10 15
10 10
5 10
```

**Exercise 12)** At the Python shell, you can now enter some code for python

to run:

```
>>> import os
>>> os.system('mkdir c:\\cs159')
0
>>> file = open("c:\\cs159\\testfile.txt", "w")
22
>>> file.write("Hello, This is my file");
23
>>> file.write("\n--- nextline ---");
17
>>> file.close()
18
>>> -
```

What are the outputs and what does the `open` and `write` command do? What is the number after typing `file.write` command mean?

what does the `open` and `write` command do?

Ans: Open command is to open the file or create the file.

Write command is to write data into the file.

What is the number after typing `file.write` command mean?

Ans: the number after typing `file.write` is the number of letters in the ""

**Exercise 13)** Next, try another following command

```
>>> import os
>>> file = open("c:\\cs159\\testfile.txt", "r");
>>> read_1 = file.read();
>>> read_2 = file.read(5);
>>> read_3 = file.readline();
>>> read_4 = file.readline();
>>> file.close();
```

```
D:\\\\python\\\\venv\\\\Scripts
Hello, This is my file
--- nextline ---
```

Then, use `print()` command to display all variable named `read_1`, `read_2`, `read_3`, and `read_4`. What are the output? How each read command are different?

Ans:-  
 - `file.read()` is to read all the text file.  
 - `file.readline()` is to read text in that line.  
 - `file.read(5)` is to read text file first 5 letters,

**Exercise 14)** Next, try another following command

```
>>> file = open("c:\\cs159\\testfile.txt", "a");
>>> file.write("\n -- append --");
>>> file.close();
```

Then, use `print()` command to display the file information. What are the different between open file with '`w`', '`r`', and '`a`' parameter?

```
D:\\\\python\\\\venv\\\\Scripts\\\\python.exe "D:\\PyCharm Community Edition 2021.2\\\\plugins\\\\pydev\\\\src\\\\pydev\\\\pydevd.py" -port 52155
Connected to pydev debugger (build 212.4746.96)
<io.TextIOWrapper name='c:\\\\cs159\\\\testfile.txt' mode='a' encoding='cp874'>
```

Ans `w` is Open for text file for reading text.

`r` is Open a text file for writing text.

`a` is Open a text file for appending text.

**Exercise 15)** Write down the following code in Python editor. Then save as 'firstProg.py' on 'C:\cs159' (Note that: at the bottom of the save as page, don't forget to select all file instead of txt file).

```
print("This is my first Python program");
num1 = 2; num2 =3;
sum=num1+num2;
print(f"The result of {num1}+{num2}={sum}");
```

Next, launching the Command Prompt by press Windows + R keys, then type Powershell. Next, typing 'cd c:\cs159' without any parameter and followed by the "return" key at the shell prompt.

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Version 10.0.19042.1110]
(c) Microsoft Corporation. All rights reserved.

C:\Users\HP>python c:\cs159\firstProg.py
This is my first Python program
The result of 2+3=5

C:\Users\HP>
```

**Exercise 16)** Create a new Python script file named 'lab01.py'. Write a program to convert Celsius To Fahrenheit and and Fahrenheit to Celsius. Ask user to 'Enter temperature in Celsius : ' then convert to Fahrenheit. Then verify your code by convert Fahrenheit back to Celsius:-

Celsius to Fahrenheit  $F = \frac{9}{5} ( C ) + 32$

Test input 33.5 in Celsius is 92.3 Fahrenheit.

```
C:\Users\HP>python c:\cs159\lab01.py
33.5
Test input 33.5 in Celsius is 92.3 Farenheit.

C:\Users\HP>
```