



IN THE NAME OF ALLAH, THE MOST GRACIOUS  
THE MOST MERCIFUL.

**Department of CSE, IIUC.**

**Autumn 22**

**Submitted By:**

Name: Farida Nusrat

ID: C201242

Semester: 6th

Section: 6AF

Email: [c201242@ugrad.iiuc.ac.bd](mailto:c201242@ugrad.iiuc.ac.bd)

Department of CSE, IIUC.

**Submitted To:**

MD. Safayat Hossen

Assistant Lecturer

Department of CSE, IIUC.



***International Islamic University Chittagong***

# Basic

The screenshot displays the PyCharm IDE interface. The main editor window shows a Python file named `Basic.py` with the following code:

```
1  # integer type
2  age = 20
3  # float type
4  mark = 20.5
5  # string type
6  s_name = 'Harlin'
7  # boolean type
8  promoted = True
9  # display the output
10 print(f'Name : {s_name}')
11 # display the output
12 print(f'Age : {age}')
```

The code is executed, and the output is shown in the Run console at the bottom. The output is:

```
"C:\Program Files\Python311\python.exe" C:\Users\De\PycharmProjects\pythonProject\Basic.py
Name : Harlin
Age : 20
Process finished with exit code 0
```

The status bar at the bottom indicates the connection to the Python debugger failed: Socket closed (today 06:40 PM). The bottom right corner shows the time 10:25, encoding CRLF, UTF-8, 4 spaces, and Python 3.11.

# String

The image shows two screenshots of the PyCharm IDE. The top screenshot displays the code editor for a file named `string.py` within a project called `pythonProject`. The code defines a string `a = "Hello, world !"` and performs various string operations: centering, finding characters, converting case, replacing, and splitting. The bottom screenshot shows the same IDE with the `Run` window open, displaying the output of the script.

```
1 # string declare
2 a = "Hello, world !"
3 # center align
4 print(a.center(25))
5 # the first occurrence of the specified value.
6 print(a.find("H"))
7 # the value is not found
8 print(a.find("h"))
9 # convert upper case
10 print(a.upper())
11 # convert lower case
12 print(a.lower())
13 # specified phrase with another specified phrase.
14 print(a.replace(", world !", " my name is Farida "))
15 # all the upper case letters are lower case and vice versa
16 print(a.swapcase())
17 # splits a string into a list.
18 print(a.split())
19
```

Run: string

Connection to Python debugger failed: Socket closed (today 06:40 PM) 19:1 CRLF UTF-8 4 spaces Python 3.11

Run: string

```
"C:\Program Files\Python311\python.exe" C:\Users\Devl\PycharmProjects\pythonProject\string.py
Hello , world !
0
-1
HELLO , WORLD !
hello , world !
Hello my name is Farida
hELLO , WORLD !
['Hello', ',', 'world', '!']

Process finished with exit code 0
```

Connection to Python debuqger failed: Socket closed (today 06:40 PM) 19:1 CRLF UTF-8 4 spaces Python 3.11

# Arithmetic Operation

The image shows two screenshots of the PyCharm IDE. The top screenshot displays the source code for a Python file named `Operation.py`. The code performs several arithmetic operations on a variable `x` and calculates other values. The bottom screenshot shows the output of the program execution in the Run console.

**Source Code (Operation.py):**

```
1  # Arithmetic operation
2  x = 10
3  x += 10
4  print(f'Addition : {x}')
5  x = x//3
6  print(f'Floor Division : {x}')
7  x = x**2
8  print(f'Power : {x}')
9  c = 7
10 d = 2
11 print(f'Module : {c%d}')
12 a = 20
13 b = 12
14 print(f'Subtraction : {(a-b)}')
15 print(f'Multiplication : {(a*b)}')
16 print(f'Division : {a/b}')
```

**Execution Output:**

```
"C:\Program Files\Python311\python.exe" C:\Users\Dell\PycharmProjects\pythonProject\Operation.py
Addition : 20
Floor Division : 6
Power : 36
Module : 1
Subtraction : 14
Multiplication : 312
Division : 2.1666666666666665

Process finished with exit code 0
```

# Logical Operation

The screenshot displays the PyCharm IDE interface. The main editor window shows a file named `Logical.py` within a project named `pythonProject`. The code in the editor is as follows:

```
1 x = 600
2 print(x > 350 and x < 1000)
3 print(x > 34 or x < 50)
4 print(not(x%3 == 0 or x%5 == 0))
5
6 a = True
7 b = False
8 print(('a and b ', a and b))
9 print(('a or b ', a or b))
10 print(('not a ', not a))
```

Below the editor, the Run tool window is open, showing the execution of the script. The command used is `"C:\Program Files\Python311\python.exe" C:\Users\Dell\PycharmProjects\pythonProject\Logical.py`. The output of the script is displayed in the Run console:

```
True
True
False
('a and b ', False)
('a or b ', True)
('not a ', False)
```

The bottom status bar of the IDE shows the connection to the Python debugger failed: Socket closed (today 08:08 PM). The status bar also indicates the current time is 10:1, the encoding is CRLF, the file encoding is UTF-8, and the Python version is 3.11.



# Loop Statement

The image shows a PyCharm IDE window titled 'pythonProject - Loop.py'. The editor displays a Python script with the following code:

```
1 # Iterating over range 0 to n-1
2 n = 10
3 print('\033[1m' + 'Use for loop : ' + '\033[0m')
4 for i in range(0, n):
5     print(i)
6 print('\033[1m' + 'Use while loop : ' + '\033[0m')
7 count = 0
8 while (count < 3):
9     count = count + 1
10    print(count)
11 else:
12    print('No value')
```

The script is executed, and the output is shown in the Run console:

```
Run: Loop x
"C:\Program Files\Python311\python.exe" C:\Users\Dell\PycharmProjects\pythonProject\Loop.py
Use for loop :
0
1
2
3
4
5
6
7
8
9
Use while loop :
1
2
3
No value
Process finished with exit code 0
```

The output demonstrates the execution of a for loop (printing numbers 0 to 9) and a while loop (printing numbers 1 to 3, followed by 'No value').

# List

The image displays two screenshots of a PyCharm IDE window titled 'pythonProject - List.py'. The left sidebar shows a project structure with files: Basic.py, List.py, Logical.py, Loop.py, Operation.py, string.py, External Libraries, and Scratches and Consoles. The main editor area shows the code for List.py.

**Top Screenshot (Lines 1-18):**

```
1 Subjects = ['C', 'C++', 'Python', 'Software', 'TOC']
2 # print all subjects
3 print(Subjects)
4 # print first subject
5 print(Subjects[0])
6 # print middle to end subject
7 print(Subjects[2:])
8 # print last subject
9 print(Subjects[-1])
10 # Check the Subject yes or no
11 print("Python" in Subjects)
12 print("Python" not in Subjects)
13 # Add the subjects
14 print(Subjects + ["OS", 6])
15 # Multiply the subjects
16 print(Subjects * 3)
17 # Length of subjects
18 print(len(Subjects))
```

**Bottom Screenshot (Lines 19-36):**

```
19 # Subjects to the end of the list.
20 Subjects.append("Java")
21 print(Subjects)
22 # Adds subject at the specified position
23 Subjects.insert(3, 'Algo')
24 print(Subjects)
25 # Removes the subject at the specified position
26 Subjects.pop(1)
27 print(Subjects)
28 # Removes the first subject with the specified value
29 Subjects.remove('C')
30 print(Subjects)
31 # Reverses the order of the list
32 Subjects.reverse()
33 print(Subjects)
34 # Sorts the list
35 Subjects.sort()
36 print(Subjects)
```

The bottom screenshot also shows a 'Run' panel at the bottom with the command 'Run: List'.

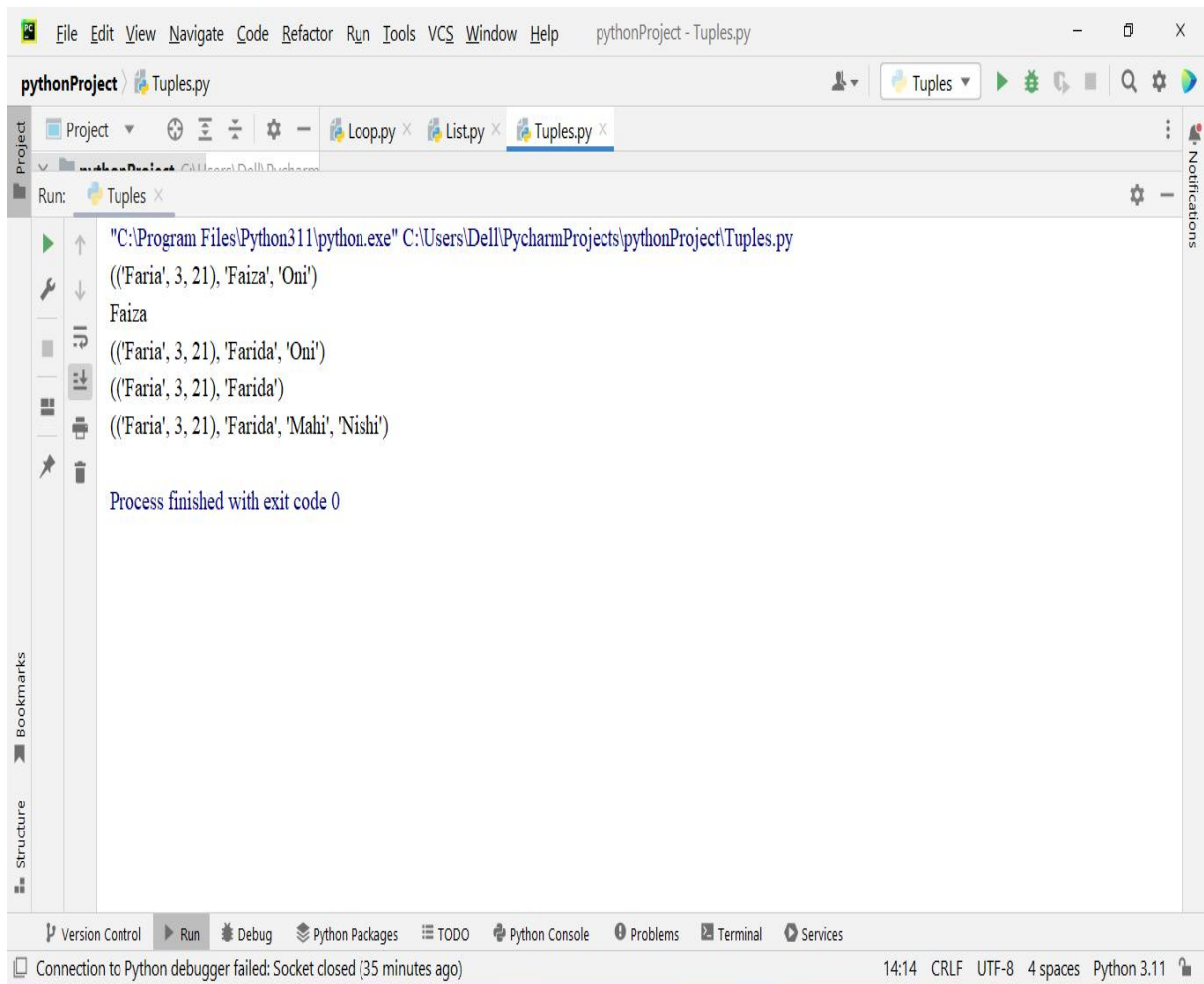
```
"C:\Program Files\Python311\python.exe" C:\Users\Dell\PycharmProjects\pythonProject\List.py
['C', 'C++', 'Python', 'Software', 'TOC']
C
['Python', 'Software', 'TOC']
TOC
True
False
['C', 'C++', 'Python', 'Software', 'TOC', 'OS', 6]
['C', 'C++', 'Python', 'Software', 'TOC', 'C', 'C++', 'Python', 'Software', 'TOC', 'C', 'C++', 'Python', 'Software', 'TOC']
5
['C', 'C++', 'Python', 'Software', 'TOC', 'Java']
['C', 'C++', 'Python', 'Algo', 'Software', 'TOC', 'Java']
['C', 'Python', 'Algo', 'Software', 'TOC', 'Java']
['Python', 'Algo', 'Software', 'TOC', 'Java']
['Java', 'TOC', 'Software', 'Algo', 'Python']
['Algo', 'Java', 'Python', 'Software', 'TOC']
[]

Process finished with exit code 0
```

## Tuples

```
1 # Creating a nested tuple
2 Students = (("Faria", 3, 21), "Faiza", "Oni")
3 print(Students)
4 # Accessing Values in Tuples
5 print(Students[1])
6 # Update a tuple
7 y = list(Students)
8 y[1] = "Farida"
9 Students = tuple(y)
10 print(Students)
11 # Delete a tuple
12 Students = Students[:2] + Students[3:]
13 print(Students)
14 # join tuples
15 Students1 = ("Mahi", "Nishi")
16 Students2 = Students + Students1
17 print(Students2)
```





```
"C:\Program Files\Python311\python.exe" C:\Users\Dell\PycharmProjects\pythonProject\Tuples.py
(('Faria', 3, 21), 'Faiza', 'Oni')
Faiza
(('Faria', 3, 21), 'Farida', 'Oni')
(('Faria', 3, 21), 'Farida')
(('Faria', 3, 21), 'Farida', 'Mahi', 'Nishi')

Process finished with exit code 0
```

Connection to Python debugger failed: Socket closed (35 minutes ago) 14:14 CRLF UTF-8 4 spaces Python 3.11