LAB # 03

**CONSOLE INPUT AND OUTPUT**

# OBJECTIVE

Taking input from user and controlling output position.

# THEORY

**Console I/O Functions**

The keyboard and visual display unit (VDU) together are called a console. Python programming language provides many built-in functions to read any given input and to display data on screen, Console (also called Shell) is basically a command line interpreter that takes input from the user i.e one command at a time and interprets it. If it is error free then it runs the command and gives required output otherwise shows the error message.

**Accepting Input from Console**

To take input from the user we make use of a built-in function *input()*.

**Syntax : input(prompt)**

**Displaying Input from Console**

The print( ) function prints the specified message to the screen, or other standard output device.

The message can be a string, or any other object, the object will be converted into a string before written to the screen.

**Syntax: print(object(s), separator=separator, end=end, file=file, flush=flush)**

**Example:**

|  |
| --- |
| name=input('Please enter your name: "')  print("Hello, " , name , "!") |

**Output:**

|  |
| --- |
| >>> %Run task1.py  Please enter your name:ABC  Hello, ABC!  >>> |

Whatever you enter as input, input function convert it into a string. if you enter an integer value still input() function convert it into a string. You need to explicitly convert it into an integer in your code using [typecasting](https://www.geeksforgeeks.org/taking-input-from-console-in-python/).

**Example:**

|  |
| --- |
| # Program to check input  num = input ("Enter number :")  print(num)  name1 = input("Enter name : ")  print(name1)    # Printing type of input value  print ("type of number", type(num))  print ("type of name", type(name1)) |

We can also type cast this input to integer, float or string by specifying the input() function inside the type.

**Typecasting the input to Integer/Float:** There might be conditions when you might require integer input from user/console, the following code takes two input(integer/float) from console and typecasts them to integer then prints the sum.

**Example**

|  |
| --- |
| # input  num1 = int(input())  num2 = int(input())  # printing the sum in integer  print(num1 + num2) |

**Escape Sequence**

In Python strings, the backslash "\" is a special character, also called the "**escape**" character. An escape sequence is a sequence of characters that does not represent itself when used inside a character or string [literal](https://en.wikipedia.org/wiki/Literal_(computer_programming)), but is translated into another character or a sequence of characters that may be difficult or impossible to represent directly.

| **Escape Sequence** | **Description** | **Example** | **Output** |
| --- | --- | --- | --- |
| **\\** | Prints Backslash | print ("\\") | \ |
| **\`** | Prints single-quote | print ("\'") | ' |
| **\"** | Pirnts double quote | print ("\"") | " |
| **\n** | ASCII linefeed ( LF ) | print ("hello\nworld") | hello world |
| **\b** | ASCII backspace ( BS ) removes previous character | print ("az" + "\b" + "c") | ac |
| **\t** | ASCII horizontal tab (TAB). Prints TAB | print ("\t\*hello") | \*hello |

**EXERCISE**

1. **Point out the errors or undefined/missing syntax, if any, in the following python programs.**
2. print("Hello \b World!")

|  |
| --- |
|  |

2. first\_number = str ( input ("Enter first number") )

second\_number = str ( input ("Enter second number") )

sum = (first\_number + second\_number)

print("Addition of two number is: ", sum)

|  |
| --- |
|  |

3. age = 23

message = "Happy " + age + "rd Birthday!"

print(message)

|  |
| --- |
|  |

1. **What would be the output of the following programs:**

1. a=5

print("a =", a, sep='0', end=',')

|  |
| --- |
|  |

2. name = input("Enter Employee Name")

salary = input("Enter salary")

company = input ("Enter Company name")

print("Printing Employee Details")

print ("Name", "Salary", "Company")

print (name, salary, company)

|  |
| --- |
|  |

3. n1=int(input('"enter n1 value'))

n2=int(input('enter n2 value'))

|  |
| --- |
|  |

1. **Write Python programs for the following**:
2. Write a program to print a student’s bio data having his/her Date of birth, Roll no, Section, Percentage and grade of matriculation and Intermediate. All the fields should be entered from the console at run time.
3. Write a program that asks the user what kind of food they would like. Print a message about that food, such as “Let me see if I can find you a Chowmein”. Food name must be in uppercase. (hint: use upper( ) for food name)
4. Take the marks of 5 courses from the user and calculate the average and percentage, display the result:

Eachcourse=50 marks

Total\_marks= course1+course2+course3+course4+course5

average=Total\_marks/5

percentage=(Total\_marks x 100)/250