**Assignment -1(Python Solution)**

1. Python is **General-purpose language** which means it can be used for a wide variety of development tasks.

Python is **high level language** coz it’s easy for humans to understand.

1. Python is **Dynamically Typed language** .it doesn’t know about the type of the variable until the code is run .So declaration is of no use.
2. **Pros of Python :**

* Presence of third-party modules
* Extensive support Libraries (Numpy for numerical calculations , Pandas for data analytics ,etc)
* Open source & large active community base
* Easy to read, learn & write
* User friendly data structure
* Dynamically typed language( No need to mention data type)
* High level language
* Object oriented & procedural programmimg language.

**Cons of python:**

* Speed is less due to use of Interpreter instead of compiler .(read line by line code)
* Mobile development
* Memory consumption due to flexibility of data type
* Database access
* Runtime errors

4 **Domain:** Web development ,data science ,OS development, scientific programming , machine learning ,Artificial Intelligence, Gaming etc.

5 **Variables:** Variables are the name which is given to memory location .

**# How to declare variable in python** : Python has no command for declaring a variable. A variable is created the moment you first assign the value to it.

6 input\_user=input(“Enter your name”)

Print(“User Name:”,input\_user)

7 Python takes all the input as a **string** input by default.

8 The conversion of one data type into the other data type is known as type casting.

Example: int() ,float(), str(), ord(), hex(), oct(), tuple(), set(), list(), dict() etc.

9 Yes we can take multiple inputs by use of single input function using Split function.

X,Y=input(“Enter the X & y values:”).split()

Print(“Number of men”,x)

Print(“number of women :”,y)

10 **Keywords:** There are 33 keywords in python. They are reserved words that can not be used as a variable name, function name ,or any other identifier.

11 We can not use keyword as a variable name, function name, or any other identifier .Keywords are predefined, reserved words used in python programming that have special meanings to the compiler .All the keywords are written in lower case except True or false.

12 Indentation **refers to the spaces at the beginning of a code line**. Where in other programming languages the indentation in code is for readability only, the indentation in python is very important.

* Python uses indentation to indicate a block of code.

13 output

14 Operators in python : The operator can be defined as a symbol which is responsible for a particular operation between two operands.

15 / this symbol represent the value of float division .// this represents the floor division which is integer division.

16 K1=input(“enter string of K1:”)

Print(“k1:”,k1\*4)

17 x1=input('enter the value of X1:')

print("enter value of x1:",int(x1))

if int(x1)%2==0:

print("x1 is even number",x1)

else:

print("x1 is odd number",x1)

18 **Boolean Operator:** Boolean operators are those that result in the Boolean values of True and False .Logical operator(and ,or ,not ) & comparison operators are examples of Boolean operators.

19 x=1

y=0

print(" output is: ",x or y)

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

X1=0

y1=0

print("output is:",X1 and y1)

x=True

y=False

z=True

print("output is:",bool(x and y and z))

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x=1

y=0

z=0

print("output is",x or y or z)

20 Conditional statement in python : Conditional statement is decision making state,ent where they decide the direction of flow of program execution.

21 **if :** if is used for simple code of block is to be performed if the condition holds true then if statement is used .here the condition mentioned holds true then the code of block runs otherwise not.

**If else :** In conditional if statement the additional block of code is merged as else statement which is performed when if condition is false.

**If elif:** if-elif statement is shortcut of if else chain.while using if-elif statement at the end else block is added which is performed if none of the above if-elif is true.

22 Age=input('Enter your age')

print('Age is:',int(Age))

if (int(Age)>18):

print("I can vote")

else:

print("I can't vote")

23.

24 a,b,c=input('enter the three values of:').split()

print("enter three value of a & b & c",a,b,c)

if (a>b and a>c):

print("a is greater")

elif (b>c):

print("b is greater")

else:

print("c is greater")

25.