

PYTHON PROGRAMMING

Attempt any three of the following.

1] Define the term debugging what are the different types of errors in programming.

→ While writing the program, there might be chances of having mistake, errors in the code. The programming errors are called as bugs and the process them, down is called as debugging.

Different types of ERRORS in programming.

1] Syntax Errors:- The Syntax is nothing but the specified structure and rules of writing the program. If we violate any rule, structure, of code then Syntax error is raised by the interpreter. If there is any Syntax error anywhere in your program, Python displays an error message.

2] Run Time Error:- The runtime error does not appear until after the program has started, running. These errors are also called exceptions because they usually indicate that something wrong has happened. The appearances of runtime error are less as very few times this kind mistake is happened by developer.

3] Semantic Errors:- The Semantic error is also referred as logical errors. It is related i.e. meaning of blank statement, is there is a semantic error in your program. It will run without generating error message but it will not give desired

result. It will show some unexpected output or error message. Specifically, it will do what you told it to do to find out semantic error can be because it requires you to work backward by looking at the output of the program and trying to figure out where is something gone wrong.

- 2) list and explain various data types in python.
- There is a need to store and manipulate data within program in order to do so then we must also have the ability to create containers used to hold that data so that the program can use it. The language needs to know how to handle data once it is stored, and we can do that by assigning data type to our container in programming language. However, in python, it is not a requirement to assign data type because the interpreter is able to determine which type of data we are storing in a dynamic fashion.

DATA TYPE	CHARACTERISTICS
None	Null value object.
int	Plain integer (eg 32)
Long	long integer, integer, letter with an 'L' suffix too long to be a plain integer.
Float	Floating-point Number Numeric containing decimal.
Complex	Complex number expressed as a sum of a numeric literal with a 'real' and 'imaginary' part.
Boolean	True or False value.
Sequence	Includes the following types; String, Unicode string, bytearray, list, tuple.

- 3) Write a program that asks the user to enter their name and age unit a message addressed to them that tells the year, when will turn 100 year old.

→

```
Name :- input("Enter your name:- ")
Current_age :- int(input("Enter your age:- "))
# Calculating the 100th year considering 2020 as the
current year.
hundredth_year = 2020 + (100 - Current_age)
print(f"{name} will become 100 years old in the year.
{hundredth_year}")
```

OUTPUT:-

```
Enter your name Omkar
Enter your age 19
Omkar will become 100 year old in the year 2021
```

- 4) Write a program to accept a number from the user and count its number of divisions.

→

```
def divisor(n):-
    x = len([i for i in range(1, n+1) if n % i == 0])
    return x
print(divisor(15))
print(divisor(12))
print(divisor(9))
print(divisor(6))
print(divisor(3))
```


Output:-

4

6

3

4

2

5) Explain the Continue Statement with a suitable example.

→ The continue statements:- The continue statement is used to skip a part of the loop and continue with next iteration of the loop. It can be used in combination with for and while statement.

SYNTAX:-

Continue

Ex:-

```
# pt. 3-13 program to use of Continue Statement
for i in range(4):
    if (i == 2):
        continue
    print(i)
```

OUTPUT:-

0
1
3

Date _____
Page _____

6) Explain the use of logical operators and membership operators in python.

→ Logical operators:- Operators are used to perform operations on values and variables. These are the special symbols that carry out arithmetic and logical computations. The value the operator operates on is known as operand.

Logical Operators:-

In python, logical operators are used on conditional statements (either true or false). They perform logical AND, logical OR and logical.

Membership operators:-

A membership operator in python can be defined as being an operator that is used to validate the membership of a value. This operator is used to test membership in variables such as strings, integers as well as tuples.

In operator:-

This operator in python is used to check if the value exists in a variable or not.