ASSIGNMENT 1: NPTEL ASSIGNMENT

Below are MCQs: 4 options are given as answers out of which one is correct.

Which of the following is a valid variable name?

○ '.ram2'
○ 'ram.2'
○ 'ram_2'
○ '2ram'00

Python files are saved with extension

○ .py
○ .python
○ .pe
○ .pi

Which of the following statement is invalid?

○ m_n_q = 3500
○ m.n.q = 3500, 3600, 3700
○ m,n,q = 3500, 3600, 3700
○ mnq = 350036003700

The command to display an output in Python is:-

○ display( )
○ output( )
○ run( )
○ print( )

Assignment operator used in Python is: -

○ ==
○ >>
○ <-
○ =

Consider the variables a and b. Values of a and b are 280 and 15 respectively. The operation that will return a remainder is: -

○ a/b
○ a%b
○ a**b
○ a*b

Python command used to calculate 2^5 is given by:-

- ◯ 2*5
- ◯ 2^5
- ◯ 2**5
- ◯ 2.exp(5)

The values of variables p and q are 15 and 3 respectively. What is the value of 'p' after running the code below?

p*=q

- ◯ 15
- ◯ 3
- ◯ 18
- ◯ 45

Which command would you use to find the data type of a variable

- ◯ data( )
- ◯ type( )
- ◯ typeof( )
- ◯ str( )

Value of variable p is 45. Command to coerce p from integer datatype to float datatype is:-

- ◯ p=p.astype('float')
- ◯ p=float(p)
- ◯ p=p.type('float')
- ◯ p=p.istype('float ')

Indicate which command would you use to set the working directory

- ◯ setwd()
- ◯ os.chdir()
- ◯ getwd()
- ◯ cd()

Comments in Python begin with

- ◯ %
- ◯ &
- ◯ #
- ◯ \

What type of object is x?

x=("Python", "version", "3.7")

○ List
○ Tuple
○ String
○ Array

) Which of the following method can be used to initialize multiple variables with a common value?
1.x=y: y=33
2.x=y=z=33
3.x=33; y=x; z=y
4.x,y,z=33

○ 1 and 2
○ 2 and 3
○ 1 and 4
○ 2 and 4

Which of the package is used for visualization in Python

○ ggplot2
○ matplotlib
○ seaborn
○ All of the above

"not in" belongs to which type of operator in Python?

○ membership
○ bitwise
○ logical
○ arithmetic

"is not" belongs to which type of operator in Python?

○ membership
○ identity
○ logical
○ equality

Package that deals with dataframe is

○ numpy
○ dataframe
○ pandas
○ math

Variable 'a' is defined as
a = 'gOOd moRning'
Command to convert 'a' from 'gOOd moRning' to 'Good Morning' is:-

○ a.upper( )
○ a.lower( )
○ a.string( )
○ a.title( )

Which of the following python data structure is immutable?

○ list
○ dictionary
○ tuple
○ array

Identify the braces used to create a **dictionary** in Python.

○ ( )
○ { }
○ [ ]
○ All of the above

The command used to add elements to a **list**

○ append( )
○ extend( )
○ insert( )
○ all of the above( )

Product = ['Pencil', 'Pen', 'Eraser', 'Pencil Box', 'Scale']
Price= [5, 10, 2, 20, 12]
Brand = ['Camlin', 'Rotomac', 'Nataraj', 'Camel', 'Apsara']
Stationery = [Product, Price, Brand]

7) The command to add **"Notebook"** as the first element inside the first level of the list   **"Stationery"** is:-

○ Stationery[0].append('Notebook')
○ Stationery[0].insert(0,'Notebook')
○ Stationery[0][1] = "Notebook"
○ Stationery[0].extend('Notebook')

The list *"Months"* is defined as:-

Months = ['Jan', 'Mar', 'June', 'Aug', 'June', 'Feb', 'Nov', 'Dec', 'June', 'Apr', 'May',   'June']

Which of the following commands returns the number of occurrences of **'June'**?

○ Months.count('June')
○ Months.len('June')
○ Months['June'].count()
○ Months['June'].len()

10) Choose the correct command to sort **'Ages'** in ascending order

Ages = ['20', '26', '56', '54', '32', '28', '23', '99', '87', '10', '65', '88', '66',
        '48', '42', '27', '33', '38', '83', '94', '66', '44']

○ sorted(Ages, reverse=False)
○ Ages.sort()
○ sorted(Ages, reverse=True)
○ both A and B

D = ['MONDAY', 'TUESDAY', 'WEDNESDAY', 'THURSDAY', 'FRIDAY', 'SATURDAY', 'SUNDAY']

11) The command to print **WEDNESDAY, THURSDAY** from the list *"D"* is

○ print(D[-5], D[-4])
○ print(D[3], D[4])
○ print(D[2:5])
○ all of the above

) The command used to reverse the above list *"D"* is:-

○ reverse(D)
○ D.reverse()
○ list(reversed(D))
○ both B and C

Mylist =['a', 'a', 'b', 'b', 'b', 'c', 'c', 'd', 'e']

The output after you run the command:
Mylist.pop(0)
print(Mylist)

⚪ ['a', 'a', 'b', 'b', 'b', 'c', 'c', 'd', 'e']
⚪ ['a', 'b', 'b', 'b', 'c', 'c', 'd', 'e']
⚪ ['a', 'a' 'b', 'b', 'b', 'c', 'c', 'd']
⚪ ['b', 'b', 'b', 'c', 'c', 'd', 'e']

Create a dictionary 'Country' that maps the following countries to their capitals respectively.

Country	India	China	Japan	Qatar	Australia
Capital	Delhi	Beijing	Tokyo	Doha	Sydney

17) The command to replace "**Sydney**" with "**Canberra**" is:-

⚪ Country['Australia']="Canberra"
⚪ Country.update({"Australia":"Canberra"})
⚪ Both A and B
⚪ None of the above

The command used for reading a text file in python is: -

⚪ read_ csv
⚪ read_table
⚪ read_ excel
⚪ both a and b

The command used for line plot from the package *Matplotlib*?

⚪ plot( )
⚪ line( )
⚪ join( )
⚪ plt( )

ASSIGNMENT-2 (UNIT 1 TO 5 & MULTITHREADED PROGRAMMING)

1) Write a python program to append data to an existing file 'python.py'. Read data to be appended from the user. Then display the contents of entire file.

2) Write a python program to know the current working directory and to print all contents of the current directory.

3) Write a python program to retrieve strings starting with m and having 5 characters.

4) What are the differences between C and Python?

5) What is lambda function in python? Explain with any one example.
6) Explain built-in datatypes of python.
7) Create a class student with following member attributes: roll no, name, age and total marks. Create suitable methods for reading and printing member variables. Write a python program to overload '==' operator to print the details of students having same marks.
8) How to comment specific line(s) in Python program?
9) Write a Python program to print Fibonacci series upto n terms.
10) What is list in Python? Demonstrate use of any three methods of list.
11) What is the use of islower() and isupper() method?
12) Give the syntax and significance of raw_input() and input() methods.
13) Write a Python program to check whether the given string is Palindrome or not using user defined function.
14) Give the syntax and significance of string functions: title() and capitalize().
15) Give the output of following Python code:
    str1 = 'This is Pyhton'
    print "Slice of String : ", str1[1 : 4 : 1]
    print "Slice of String : ", str1[0 : -1 : 2]
16) Is tuple mutable? Demonstrate any two methods of tuple.
17) Write a program in python demonstrating use and creation of modules.
18) Write a program in python demonstrating use and creation of Package.
19) What is testing? What is debugging? What are two types of testing? Explain.
20) What are different types of bugs programmer has to handle?
21) a) Create a class Employee with data members: name, department and salary. Create suitable methods for reading and printing employee information.
    b) Write a python program that creates a class Student having attributes {Enrollement_No, Name} and methods set_data that takes the values from the user and assigns them to attributes of the class and an operator overloading function that converts Student object to string. Also create an Class variable student_count that wil maintain the count of Student Instances and a method that will display this count.
22) List out keywords used in exception handling. Write a program in python describing File exception handling.
23) What is function in python? Write syntax of it.

24) Write syntaxes of if-elif-else and for loop in python.
25) What is use of global keyword in python?
26) What is dictionary in Python? Explain with an example.
27) What is inheritance in python? Explain Single, Multiple and Multiple inheritance with python programs.
28) Give syntax of the methods which can be used to take input from the user in python program.
29) Write a Python program which will throw exception if the value entered by user is less than zero.
30) a) How append() and extend() are different with reference to list in Python?
    b) How sorted() can be used with list in Python? Give an example.