PYTHON ASSIGNMENT-1

Q1. Using Python script as a calculator Create the variables n, r, p and assign them values 10, 5, and 100 respectively. Then evaluate the following expression in the Python console.

$A = p\ (1 + r/\ 100)$n

a. 100

b. 162.89

c. 189

d. None of the above

ANS- d. None of the above . Because the equation result is 1050.0

Q2. In a given string format operation, how will you print the given string.

A = 10 B = 20 Str = "There are {} students in the class, with {} who play at least one sport."

a. print(string.format(a,b))

b. print(string+a+b)

c. print(string.format(b,a))

d. None of the above

ANS- d. None of the above . The actual format is print(Str.format(A,B))

Q3. In a given sample string, How do you print a double quoted string in between a regular string using the escape character? Sample output = It goes without saying, “Time is Money”, and none can deny it.

a. print(“It goes without saying, \“Time is Money\”, and none can deny it.”)

b. print(“It goes without saying, \Time is Money\, and none can deny it.”)

c. print(“It goes without saying” + “Time is Money” + “and none can deny it.”)

d. None of the above.

Ans-a. print(“It goes without saying,\“Time is Money\”, and none can deny it.”)

Q4. What will be the output of the following code?

x = lambda a,b: a//b x(10,3)

a. 3.3333333333

b. 3

c. 30

d. 1000

ANS- 3

Q5. What will be the output of the following code? A = 10 B = 12
print("Smaller") if A == B else print("Greater") if A < B else print("True")

a. True

b. Smaller

c. Greater

d. None of the above

ANS- Greater

Q6. What will be the output of the following code?

a. [2 7 3 5 4 6]

b. TypeError

c. NameError: name 'numpy' is not defined

d. None of the above

ANS- c. NameError: name ‘numpy’ is not defined

Q7. Create a string called ‘string’ with the value as “Machine Learning”. Which code(s) is/are appropriate to slice the substring “Learn”?

a. string[slice(13,8,1)]

b. string[slice(1,8,1)]

c. string[8:14]

d. string[slice(8,13,1)]

ANS- d. string[slice(8,13,1)]

Q8. Create a sequence of numbers from 10 to 25 and increment by 4. What is the index of the value 18?

a. 3

b. 2

c. 0

d. 1

ANS- b. 2

Q9. Which of the following is true with respect to the below codes?

a. num1 = num2

b. num1 ≠ num2

c. num1 < num2

d. num1 > num2

ANS- a. num1=num2

Q10.A Python NameError exception is raised when: -

a. Trying to access a variable which has not been defined

b. Trying to access a key in a dictionary that does not exist

c. Accessing a column with misspelled column name

d. Accessing the function from a module that has not been imported

ANS- a. Trying to access a variable which has not been defined

Q11.What type of exception will be raised for the code given below?

a. NameError

b. KeyError

c. ValueError

d. AttributeError

ANS-c. ValueError

Q12.A FileNotFoundError exception is raised by operating system errors when:

a. Trying to create a file or directory which already exists

b. A file or directory is requested but does not exist in the working directory

c. Trying to run an operation without the adequate access rights

d. A directory operation, os.listdir() is requested on something which is not a directory

ANS- b. A file or directory is requested but does not exist in the working directory

Q13.Consider a variable Z. The value of Z is "ID-5632". Data type of Z is: -

a. Complex

b. Character

c. Integer

d. Boolean

ANS- Character

Q14.Which of the following variable(s) are character data type?

a. K= “4”

b. J= “Welcome”

c. L= “?”

d. All of the above

ANS- d. All of the above

Q15.Choose the symbol/s that does not have the ability to convert any values to string?

a. ( )

b. “ ”

c. {}

d. #

ANS- d.#

Q16.Create a dictionary ‘Country’ that maps the following countries to their capitals respectively:

Find 2 commands to replace “Marseilles” with “Paris” is:

ANS-
```
d={'Country': 'State',
 'India': 'Delhi',
 'China': 'Beijing',
 'Japan': 'Tokyo',
 'Qatar': 'Doha',
 'France': 'Marseilles'}
```

1. `d['France']='Paris'`
2. `d.update({'France':'Paris'})`

Q17. Create the tuples given below tuple_1 = (1,5,6,7,8) tuple_2 = (8,9,4) Identify which of the following code does not work on a tuple.

a. sum(tuple_1)
b. len(tuple_2)
c. tuple_2 + tuple_1
d. tuple_1[3] = 45

ANS- tuple_1[3]=45 since a tuple is immutable

Q18. How many elements in the following data structure?

ANS-6

Q19.Write a function which finds all pythagorean triplets of triangles whose sid es are no greater than a natural number N.

ANS-

```
def find_pythagorean_triplets(N):
    triplets = []
    for a in range(1, N + 1):
        for b in range(a, N + 1):
            c_squared = a**2 + b**2
            c = int(c_squared**0.5)
            if c <= N and c_squared == c**2:
                triplets.append((a, b, c))
    return triplets

N = 20
pythagorean_triplets = find_pythagorean_triplets(N)
print(pythagorean_triplets)
```