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8. STRINGS AND STRING MANIPULATION

Section – A

Choose the best answer **(1 Mark)**

1. Which of the following is the output of the following python code?

```
str1="TamilNadu"
print(str1[::-1])
```

(a) Tamilnadu (b) Tmlau (c) udanlimaT **d) udaNlimaT**

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

```
str1 = "Chennai Schools"
str1[7] = "-"
```

(a) Chennai-Schools (b) Chenna-School **(c) Type error** (d) Chennai

3. Which of the following operator is used for concatenation?

(a) + (b) & (c) * (d) =

4. Defining strings within triple quotes allows creating:

(a) Single line Strings **(b) Multiline Strings**
(c) Double line Strings (d) Multiple Strings

5. Strings in python:

(a) Changeable (b) Mutable **(c) Immutable** (d) flexible

6. Which of the following is the slicing operator?

(a) { } **(b) [ ]** (c) < > (d) ( )

7. What is stride?

(a) index value of slide operation (b) first argument of slice operation
(c) second argument of slice operation **(d) third argument of slice operation**

8. Which of the following formatting character is used to print exponential notation in upper case?

(a) %e **(b) %E** (c) %g (d) %n

9. Which of the following is used as placeholders or replacement fields which get replaced along with format( ) function?

(a) { } (b) < > (c) ++ (d) ^^

10. The subscript of a string may be:

(a) Positive (b) Negative (c) Both (a) and (b) **(d) Either (a) or (b)**

Section-B

Answer the following questions **(2 Marks)**

1. What is String?

- String is a data type in python, used to handle array of characters.
- String is a sequence of characters that may be a combination of letters, numbers, or special symbols enclosed within single, double or even triple quotes.

2. Do you modify a string in Python?

- Yes we can modify the string by the following method,
- A new string value can be assign to the existing string variable.
- When defining a new string value to the existing string variable.
- Python completely overwrite new string on the existing string.

3. How will you delete a string in Python?

- Python will not allow deleting a particular character in a string.
- Whereas you can remove entire string variable using **del** command.
- **Example:**

```
del str1[2]
```

4. What will be the output of the following python code?

```
str1 = "School"
print(str1*3)
```

OUTPUT:

```
School School School
```

5. What is slicing?

- Slice is a substring of a main string.
- A substring can be taken from the original string by using [ ] slicing operator and index or subscript values.
- Using slice operator, you have to slice one or more substrings from a main string.

General format of slice operation:

str[start:end]

Section-C

Answer the following questions **(3 Marks)**

1. Write a Python program to display the given pattern

```
C O M P U T E R
C O M P U T E
C O M P U T
C O M P U
C O M P
C O M
C O
C
```

CODE:

```
str="COMPUTER"
index=len(str)
for i in str:
    print(str[:index])
    index-=1
```

2. Write a short about the followings with suitable example: (a) capitalize( ) (b) swapcase( )

FUNCTION	PURPOSE	EXAMPLE

capitalize( )	Used to capitalize the first character of the string	>>> city="chennai"
		>>> print(city.capitalize())
		Output:
		Chennai

swapcase( )	It will change case of every character to its opposite case vice-versa.	>>> str1="tAmiL NaDu"
		>>> print(str1.swapcase())
		Output:
		TaMIl nAdU

3. What will be the output of the given python program?

CODE:

```
str1 = "welcome"
str2 = "to school"
str3=str1[:2]+str2[len(str2)-2:]
print(str3)
```

OUTPUT:

weol

```
Python 3.7.3 (v3.7.3:ef4ec6ed12, Mar 25 2019, 21:26:53) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
======= RESTART: C:/Users/SANJANASRI.SANJANASRI-PC/Desktop/Python/x.py =======
weol
>>>
```

4. What is the use of format( )? Give an example.

- The **format( )** function used with strings is very powerful function used for formatting strings.
- The curly braces { } are used as placeholders or replacement fields which get replaced along with format( ) function.

EXAMPLE:

```
num1=int (input("Number 1: "))
num2=int (input("Number 2: "))
print ("The sum of { } and { } is { }".format(num1, num2,(num1+num2)))
```

OUTPUT:

Number 1: 34
Number 2: 54
The sum of 34 and 54 is 88

5. Write a note about count( ) function in python.

- Returns the number of substrings occurs within the given range.
- Remember that substring may be a single character.
- Range (beg and end) arguments are optional. If it is not given, python searched in whole string.
- Search is case sensitive.

SYNTAX:

count(str, beg, end)

EXAMPLE:

```
>>> str1="Raja Raja Chozhan"
>>> print(str1.count('Raja'))
```

OUTPUT: 2

Section - D

Answer the following questions: **(5 Marks)**

1. Explain about string operators in python with suitable example.

STRING OPERATORS

Python provides the following string operators to manipulate string.

(i) Concatenation (+)

- Joining of two or more strings using plus **(+) operator** is called as **Concatenation**.

Example

```
>>> "welcome" + "Python"
```

Output: **'welcomePython'**

(ii) Append (+ =)

- Adding more strings at the end of an existing string using **operator +=** is known as **append.**

Example:

```
>>> str1="Welcome to "
>>> str1+="Learn Python"
>>> print (str1)
```

Output: ***Welcome to Learn Python***

(iii) Repeating (*)

- The multiplication operator (*) is used to display a string in multiple number of times.

Example:

```
>>> str1="Welcome "
>>> print (str1*4)
```

Output: Welcome Welcome Welcome Welcome

(iv) String slicing

- Slice is a substring of a main string.
- A substring can be taken from the original string by using **[ ] slicing operator** and index values.
- Using slice operator, you have to slice one or more substrings from a main string.

General format of slice operation:

str[start:end]

- Where ***start*** is the beginning index and ***end*** is the last index value of a character in the string.
- Python takes the end value less than one from the actual index specified.

Example: slice a single character from a string

```
>>> str1="THIRUKKURAL"
>>> print (str1[0])
```

Output: T

(v) Stride when slicing string

- When the slicing operation, you can specify a third argument as the stride, which refers to the number of characters to move forward after the first character is retrieved from the string.
- The default value of stride is 1.
- Python takes the last value as n-1
- You can also use negative value as stride, to prints data in reverse order.

Example:

```
>>> str1 = "Welcome to learn Python"
>>> print (str1[10:16])
>>> print(str1[::-2])
```

Output: Learn

nhy re teolW