Eswari and Raja - Pure Storage

Python Questions

1. Sort the below list without using inbuilt function

   l = [2,3,-5,-7,9,4,6,-1,-8,0]

2. Define a function which returns a list contains only the palindrome strings from the list of provided string elements

   input : List of strings
   output : List of palindrome strings

3 Define logic for identifying the even numbers and odd numbers from the given list and generate a dictionary as follows

   numbers = [4,5,7,2,9,8]
   result = {“even”:[4,2,8],”odd”:[5,7,9]}

4. Define a function which returns dictionary that stores the words and it’s length from the given text

   text = “Be happy”
   Expected Output : {“Be”:2,”happy”:5}

5. Let’s consider there is a list which contains usernames, You have received requirement to add one more username to the list (without using append and assignment approaches)

   input : [“user1”,”user2”]
   output : [“user1”,”user2”,”user3”]

6. Define the logic for generating the email id based on username and department
   Get the username and department as a input and create a email id from it
   input :
      username : msys
      department: automation
   output:
      msys.automation@gmail.com
   Note : Generated email id should contain @ and should end with .com

7 In the given string, remove the special characters and add a space instead of that

“Msys&Technologies@Chennai*”

8. What is the return type of arbitrary positional arguments and arbitrary keyword arguments

9. Given a string “abcde”, Display the output as “a1b2c3d4e5”

10. Generate a dictionary from the two given lists using dict function (without using for loops) and calculate the sum of all the values in the dictionary using reduce and anonymous concepts

L1 = [“a”,”b”] L2 = [1,2]

Expected Output :

data = {“a”:1, “b”:2}

sum = 3

11. Define Calculator logic in such a way that addition and subtraction functions should be in one python file and multiplication and division should be in another python file, Access these functions and utilize them inside the main file.

12. Solve the following scenarios·

- Let’s assume that there is a tuple containing username, You have got a requirement to add password also into it.
    - Input : (“user1”)
    - Output : (“user1”,”password1”)
- Below logic is failing with an error message, Instead of auto generated Error, Please display the user defined message saying “Error : Cannot concatenate String and Number”·

```
print(“msys” + 2007)
```

13. Let’s assume there is function defined which expects only list as an argument, However there is chance that sometimes function will be called with different type of data, Now Fix this scenario to handle the other types without breaking the code ·

- Scenario 1: If the argument provided is a list then, Print inside the function as “valid argument “·
- Scenario 2: if the argument provided is a different data type, then Print a message saying “ invalid argument, You have provided data type (str/int) “

·

14. Define a function which can read json file and displays the data present in it to the console in dictionary format

Note : Please create .json file and store the sample data in it and read the json file, display the data in dictionary format

15. Define logic for generating the random password with the provided length as an input

16. Let’s consider there are two files, one file contains testnames, other file contains testnames and status for each one. Generate dictionary with key’s as testname and value as status

Input :

File1.txt:

test1

test2

File2.txt:

test1-pass

test2-fail

Output :

{ “test1” : ”pass”, “test2” : ”fail”}

17. Define the function which returns the counts of saturdays part of a year (year is an input [Ex: 2022])

18. Write sample code for reproducing the below errors and print the user defined messages with the use of exception handling concept

- IndexError,TypeError,AttributeError,ValueError

19. Define a generator to print the numbers between o to n (including) which are divisible by 5 and should be even

N = 20

Output : 10 20

20. Define sample code to achieve the following OOPs concepts

- Inheritance
- Method Overriding
- Encapsulation
- Method overloading
- Abstraction

21. Imagine a scenario where you are required to fetch the employee names who joined after 02 Sep 2022 and location is Hyderabad

```
employee_ data = {
                    “priya”:{
                                “location”       : “Hyderabad”
                                “joining_date “: “05/09/2022”
                            },
                     “mahi”: {
                                “location”       : “Bangalore”
                                “joining_date “: “20/02/2023”
                            },
                     “raja”: {
                                “location”       : “Hyderabad”
                                “joining_date “: “14/10/2022”
                           },
```

```
"prabhu":{
        "location"       : "Bangalore"
        "joining_date ": "02/01/2023"
    }
}
```

22. Define the logic for verifying whether URL is Valid or Invalid

Requirements for Valid URL·

- Should not contain any Special characters [,*,&,%,$,#,@,!] and Spaces
- Should start with https://

Input : URLs will be stored inside a file , read the URLs from the input file [input.txt]

Output : Generate a .txt file which contains the information whether URL is valid or not (URL, Status [valid/invalid])

Example:

Input :

Input.txt [text file]

https://m

http s://m

Output:

1. https://m, valid
2. http s://m, invalid

Note: Define the logic with different approaches [1. Using RegEx 2. Without RegEx]

23. Write a logic for calculating the time taken for executing the python function

24. Define a logic for identifying the different files (In different format:.csv, .txt) which are part of a directory

Input : You can create a directory and create the files with two different formats (Manually for the input)

Output : Create two different directories and store this files separately based on the extension

Example :

Input:

Assume file1.csv, file2.txt, file3.csv, file4.txt are present inside a directory (Any name)

Output:

CSV - [Directory with the name CSV]

file1.csv

file3.csv

TXT - [Directory with the name TXT]

file4.txt

file2.txt

25. Define a logic to print the combinations from the two the below input data

Input :

```
{
   'Department': ['Bakkt', 'Cisco'],
   'Team'        : ['Red', 'Yellow', 'Black']
}
```

Output :

```
[
{ 'Department': ‘Bakkt’,  'Team': 'Red’},
{ 'Department': ‘Bakkt’,  'Team': 'Yellow’}
{ 'Department': ‘Bakkt’,  'Team': 'Block’}
{ 'Department': ‘Cisco’,  'Team': 'Red’}
{ 'Department': ‘Cisco’,  'Team': 'Block’}
{ 'Department': ‘Cisco’,  'Team': 'Yellow’}
```

26. Print the pattern

Pattern for the input : 3

```
*1
21*
*123
```

Note : Logic should also work for dynamic input - Ex: 5

27. Write a python-selenium script to get the distance between Chennai and Bangalore using google-map

28. Define division logic which should also handle the the scenario if input argument (second argument) is 0, Use the decorator concept to include this validation before proceeding further on the actual functionality

29. Find the element in a list using Binary Search Algorithm and return a tuple containing the element and its index.

30. Read data from json file [data.json] and generate an excel report with the provided data

data.json

```
{
  "company_name" : "MSYS"
  "employees"    : [
                       { "name":"Mahi", "location":"Chennai" },
                       { "name":"Raj", "location":"Bangalore" }
                   ]
}
```

Excel Sheet data should be displayed as shown below

Company Name	MSYS
Employees	
Name	**Location**
Mahi	Chennai
Raj	Bangalore