Tab 1

python Data Structure and function

**strings**

1) what will be the output for the following code?

S = “pythonprogramming”

Ans) toporm (option a)

2)what does “Hello” .replace (‘l’,”) return?

S = “Hello”

print.(s.replace(‘l,”)

Ans) Heo (option a)

**List and tuples:**

3) what will be the output?

Lst = [1,2,3]

lst.extent([4,5])

print(lst)

Ans) [1,2,3,4,5] (option b)

4) which of the following statement is incorrect regrading tuples?

Ans) tuples can contain mutable objects (option d)

5) what will be tuples([1,2,3,4]) return?

Ans) [1,2,3,4] (option b)

**List slicling**

6) what does lst [-3:-1] return for the list[10,20,30,40,50]?

Ans)[30,40] (option a)

7)what does list[::-1] return for list = [‘a’,’b’,’c’,’d’]?

Ans) [‘a’,’b’,’c’,’d] (option a)

**List Comprehension**

8) what does [x\*\*2 for x in range(5) if x %2 ==0] return?

Ans) [0,4,16] (option a)

9) Identify incorrect list comprehension syntex:

Ans) [x for x in range(10) x%2 == 0] (option b]

**Range**

10) what is the output of the range(1,5,2) in list form?

Ans)[1,3] (option a)

11)what happened if range(5,1,1) executed?

Ans)[] (option c)

**Dictionaries and Dictioary comprehension**

12) what is the output of the below?

Ans){‘x:1, ‘y’ :3 , ‘z’ : 4 } (option a)

13)what does {x: x\*\*3 for x in range(2,5} return?

Ans) {2: 8, 3:27, 4:64} (option a)

**14) what will list(d.keys())[0] return for d = {‘a’ ;100, ‘b’ :200}?**

**Ans)**

**Functions**

**15) what is the output ?**

**def f(x,y=[]) :**

**y.append(x)**

**return y**

**print(f(1))**

**print(f(2))**

**Ans) Error**

**16) what will lambda x: x\* x return when x=3?**

**Ans) output is 9 (option b)**

**17) what function is used to filter elements from an iterable?**

**Ans) filter() (option c)**

**18) what is the output?**

**from functools import reduce**

**reduce (lambda x,y :x\*y,[1,2,3,4])**

**Ans) 24 (option b)**

**19)what does filter(lambda x: x>2, [1,2,3,4])?**

**Ans)[3,4] (option a)**

**20)write a function that accepts a variable number of arguments and print them.**

**Ans) def add\_numbers(\*args):**

**return sum(args)**

**print(sum((1,2,3,4)))**

**Section 2: coding challenges**

**1) reverse a string without using slicling**

**def reverse\_string (s):**

string ="python coding"

string[::-1]

**Ans) ‘gnidoc nohtyp ‘**

**2)write a function to remove duplicates from list**

**def remove \_duplicates(lst):**

**Ans) list = [1,2,2,3,4,4,5]**

remove\_duplicates = set(list)

print(remove\_duplicates)

**out put [1,2,3,4,5]**

**3)write a dictionary comprehension that reverse keys and values**

**Ans) my\_dict = {'a':1,'b':2,'c':3}**

**Key\_value\_**

**pairs\_reversed**

**= [(value, key) for key, value in my\_dict.items()]**

**print(key\_value\_pairs\_reversed)**

**output:[(1, 'a'), (2, 'b'), (3, 'c')]**

**4) Implement map() to find the cube of a list of numbers**

**Ans) numbers\_tuple = (1,2,3,4)**

**cubed = [x\*\*3 for x in numbers\_tuple]**

**print(cubed)**

**out put :[1, 8, 27, 64]**

**5)implement a function using filter() to remove vowels from a string**

**Ans)string ="hello world"**

**vowels = "aeiou"**

**remove\_vowels = ‘’.joint[char for char in string if char not in vowels]**

**print(remove\_vowels)**

**output:hll wrld**

**6)write a function that returns a dictionary of squares from 1to n**

**Ans)square\_dict ={x: x\*\*2 for x in range(1,6)}**

**print(square\_dict)**

**output:{1: 1, 2: 4, 3: 9, 4: 16, 5: 25}**

**7)write a function two merge two dictionaries**

**Ans)d1 = {'a':1,'b':2}**

**d2 = {'b':3,'c':4}**

**combined\_dict = {\*\*d1, \*\*d2}**

**print(combined\_dict)**

**output:{'a': 1, 'b': 3, 'c': 4}**

**8)implement reduce()to compute factorial of a number**

**Ans)from functools import reduce**

**n = [1,2,3,4,5]**

**def factorial(n):**

**print(reduce(lambda x,y: x\*y, range(1,n+1)))**

**factorial(5)**

**output:120**

**9)write a function to flatten a nested list?**

**def flatted\_list(nested\_list):**

**return [item for sublist in nested\_list for item in sublist]**

**nested\_list = [[1,2,3,],[4,5]]**

**flatted\_list = flatted\_list(nested\_list)**

**print(flatted\_list)**

**output:[1,2,3,4,5]**

**10)write a lambda function to check if number is prime**