**1. What is the output of the following code?**

var = "x" \* 2 \*\* 3

print(var)

(hint: \*\* is exponential operator, \* is repetition operations when it is between string and int)

xxxxxxxx

**2. What is the output of the following code?**

str = "Capgemini"

print (str[:4])

(hint: the upper index is exclusive and we will be the value printed up to that upper limit value, not including the upper limit index value. If the lower limit is mentioned then it starts from 0 and if the upper limit is not mentioned then it will print till end of the string)

Capg

**3. What is the output of the following code**

**salary = 8000**

**def printSalary():**

**salary = 12000**

**print("Salary:", salary)**

**printSalary()**

**print("Salary:", salary)**

**(hint: the local variable created within a function is visible only within the function and not visible outside of the function )**

Salary:12000  
Salary:8000

**4.Print First 10 natural numbers using while loop**

# program 1: Print first 10 natural numbers

i = 1

while i <= 10:

print(i)

i += 1

**5.Write a program to accept a number from a user and calculate the sum of all numbers from 1 to a given number**

**For example, if the user entered 10 the output should be 55 (1+2+3+4+5+6+7+8+9+10)**

**(hint:Use for loop and range() function)**

Approach-1:

==========

# s: store sum of all numbers

s = 0

n = int(input("Enter number "))

# run loop n times

# stop: n+1 (because range never include stop number in result)

for i in range(1, n + 1):

# add current number to sum variable

s += i

print("\n")

print("Sum is: ", s)

Approach-2:

==========

n = int(input("Enter number "))

# pass range of numbers to sum() function

x = sum(range(1, n + 1))

print('Sum is:', x)

**6.What is the output of the following**

**aList = [1, 2, 3, 4, 5, 6, 7]**

**pow2 = [2 \* x for x in aList]**

**print(pow2)**

[2, 4, 6, 8, 10, 12, 14]

**7.What is the output of the following list assignment**

**aList = [4, 8, 12, 16]**

**aList[1:4] = [20, 24, 28]**

**print(aList)**

[4, 20, 24, 28]

**8.What is the output of the following code**

**my\_list = ["Hello", "Python"]**

**print("-".join(my\_list))**

Hello-Python

**9.What is the output of the following code**

**aList = ["Python", [4, 8, 12, 16]]**

**print(aList[0][1])**

**print(aList[1][3])**

P8

y16

**10.aList = [10, 20, 30, 40, 50, 60, 70, 80]**

**print(aList[2:5])**

**print(aList[:4])**

**print(aList[3:])**

[30, 40, 50]

[10, 20, 30, 40]

[40, 50, 60, 70, 80]

**11.What is the output of the following list function?**

**sampleList = [10, 20, 30, 40, 50]**

**sampleList.pop()**

**print(sampleList)**

**sampleList.pop(2)**

**print(sampleList)**

[10, 20, 30, 40]

[10, 20, 40]

**12. What is the output of the following list comprehension**

**resList = [x+y for x in ['Hello ', 'Good '] for y in ['Dear', 'Bye']]**

**print(resList)**

[‘Hello Dear’, ‘Hello Bye’, ‘Good Dear’, ‘Good Bye’]

**13.Which method should I use to convert String "welcome to the beautiful world of python" to "Welcome To The Beautiful World Of Python"**

title()

**14.What is the output of the following String operations**

**str = "my name is rohit"**

**print (str.capitalize())**

My name is rohit

**15.What is the output of the following tuple operation (hint:Tuple is immutable)**

**aTuple = (100, 200, 300, 400, 500)**

**aTuple[1] = 800**

**print(aTuple)**

TypeError

**16.Return a new set of identical items from two sets**

**input:**

**set1 = {10, 20, 30, 40, 50}**

**set2 = {30, 40, 50, 60, 70}**

**Expected output:**

**{40, 50, 30}**

**hint:Use the intersection() method of a set.**

print(set1.intersection(set2))

**17.Return a set of elements present in Set A or B, but not both**

**input:**

**set1 = {10, 20, 30, 40, 50}**

**set2 = {30, 40, 50, 60, 70}**

**Expected output:**

**{20, 70, 10, 60}**

**hint: Use the symmetric\_difference() method of a set.**

print(set1.symmetric\_difference(set2))

**18.Check if two sets have any elements in common. If yes, display the common elements**

**input:**

**set1 = {10, 20, 30, 40, 50}**

**set2 = {60, 70, 80, 90, 10}**

**Expected output:**

**{10}**

**hint:use the intersection() method to display common elements**

print(set1.intersection(set2))

**19. What is the output of the following dictionary operation**

**dict1 = {"name": "rohit", "salary": 1000}**

**temp = dict1.get("age","NA")**

**print(temp)**

NA

**20.How to access the value of a history subject**

**sampleDict = {**

**"class":{**

**"student":{**

**"name":"Mike",**

**"marks":{**

**"physics":70,**

**"history":80**

**}**

**}**

**}**

**}**

sampleDict['class']['student']['marks']['history']

**21.What is the output of the following function call**

**def fun1(name, age=20):**

**print(name, age)**

a)fun1('rohit', 25)

b)fun1('rohit')

rohit 25

rohit 20

**22.What is the output of the add() function call**

**def add(a, b):**

**return a+5, b+5**

**result = add(3, 2)**

**print(result)**

(8,7)

**23.What is the output of the following display() function call**

**def display(\*\*kwargs):**

**for i in kwargs.keys():**

**print(i,kwargs[i])**

**display(emp="rohit", salary=10000)**

emp rohit

salary 10000

**24.What is the output of the following regex code**

**# import RE module**

**import re**

**target\_str = "My roll number is 25"**

**res = re.findall(r"\d", target\_str)**

**# extract mathing value**

**print(res)**

Output [2, 5]

**25.Write one line of Python that takes this list and makes a new list that has only the even numbers.**

**input:**

**a=[1, 4, 9, 16, 25, 36, 49, 64, 81, 100]**

**Expected output:**

**[1,4,16,36,64,100]**

[ x for x in a if x%2==0]

**26.Write a program (function!) that takes a list and returns a new list that contains unique values?**

# this one uses a for loop

def dedupe\_v1(x):

y = []

for i in x:

if i not in y:

y.append(i)

return y

#this one uses sets

def dedupe\_v2(x):

return list(set(x))

**27.Write 2 functions named f\_1 and f\_2. First one takes a number as input and returns that number +5, second function takes a number as input and returns first function's result multiplied by 2.**

def f\_1(x):

return x+5

def f\_2(y):

return f\_1(y)\*2

**28.Create a function named f\_1 which takes an integer as input and then returns it.**

def f\_1(lst):

return lst.reverse()

**29.Write a code to open and read the file(myfile.txt) and print content from 100th line to 200 lines**

with open("myfile.txt","r") as fo:

print(fo.readlines()[100:201])

**30.Write a functions that are available for file read and write operations**

read:

read(), readline(), readlines()

write:

write(), writelines()

**31.Write a one line lambda function to return "same" if two numbers are same , else should return "not same"**

(lambda x,y: "same" if x==y else "not same")(10,10)

(lambda x,y: "same" if x==y else "not same")(10,20)

**33.Given a list below**

alist=[10,20,30,40,50]

**a)Write a code to insert 100 between 10,20 in the following list**

**alist.insert(1,100)**

**b)Write a code to add 60,70,80,90,100 at the end of the list**

**alist.extend([60,70,80,90,100])**

**c)Write a code to remove 40**

**alist.remove(40)**

**d)write a code to sort the list in reverse manner**

**alist.sort(reverse=True)**

**e)write a code to sum the list of elements**

**sum(alist)**

**34. Write the menthods available in database operations**

fetchone(), fetchmany(), fetchall()

**35.Write a SQL query to fetch the employees name (column: ename) from employee table who are from chennai (column:city) with age (column:age) less than 25**

SELECT ename FROM employee WHERE city="chennai" and age < 25;