# BRAIN INTERNATIONAL SCHOOL

**SESSION 2024-25**

**CLASS: XII** **TERM 1 REVISION SHEET** **SUBJECT: CS**

## Chapter 1 &2 : Python Revision Tour 1 & 2

Q1. Multiple Choice Questions. Choose the correct option. (1 X 13 = 13)

1. Which of the following will create a single element tuple?

(a) (1,) (b) (1) (c) ([1]) (d) tuple([1])

2. Dictionaries are also called _____.

(a) mappings (b) hashes (c) associative arrays (d) all of these

3. Dictionaries are _____ data types of Python.

(a) mutable (b) immutable (c) simple (d) all of these

4. What is the output of the following code?

```
t = (10, 20, 30, 40, 50, 60, 70)
print(t[5:-1])
```

(a) Blank output() (b) (10,20,30,40,50) (c) (10,30,50,70) (d) 10,20,30,40,50,60,70)

5. Choose the correct statement(s).

(a) Both tuples and lists are immutable.

(b) Tuples are immutable while lists are mutable.

(c) Both Tuples and lists are mutable.

(d) Tuples are mutable while lists are immutable.

6. Evaluate the following expressions:

a) 6 * 3+ 4**2 // 5 – 8

b) 10 > 5 and 7 > 12 or not 18 > 3

# Ch-3 : Working with Functions

Q1. What will be the output of the following code?

```
def my_func(var1=100, var2=200):
    var1+=10
    var2 = var2 - 10
    return var1+var2
print(my_func(50),my_func())
```

a. 100 200
b. 150 300
c. 250 75
d. 250 300

Q2. Specify the modules , to which the following functions belong?

i) sqrt( ) ii ) randint( )

Q3. What is the difference between a local variable and a global variable?

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

1. 
```
def my_func(var1=100,var2=200):
    var1+=10
    var2= var2-10
    return var1+var2
print(my_func(50),my_func())
```

2. 
```
def check(n1=1,n2=2):
    n1=n1+n2
    n2+=1
    print(n1,n2)
check()
check(3)
```

3. 
```
def changer(p,q=10):
    p=p/q
    q=p%q
    print(p, "#", q)
    return p
a=200
b=20
a=changer(a,b)
print(a,"$",b)
a=changer(a)
print(a,"$",b)
```

4. 
```
def display(l):
    l2=[ ]
    for n in l:
        if n%2==0:
            l2.append(n)
    return l2
print(display([100,228,333,432,509,60,787,800,967]))
```

5. 
```
value=50
def display(N):
    global value
    value=25
    if N%7==0:
        value=value+N
```

```
        else:
            value=value-N
    print(value,end="#")
    display(20)
    print(value)
```

Q5. Srishti has written Python Program to add all the numbers of the list. Her code is having errors. Rewrite the correct code and underline the corrections made.

```
define sum(numbers):
  total =0
   for x in numbers
       total+=x
   returns total
  print(sum([4,6,3,5,6])
```

Q6. What possible outputs(s) are expected to be displayed on screen at the time of execution of the program from the following code? Also specify the maximum values that can be assigned to each of the variables Lower and Upper.

```
import random AR=[20,30,40,50,60,70];
Lower =random.randint(1,3)
Upper =random.randint(2,4)
for K in range(Lower, Upper +1):
      print (AR[K],end="#")
```

(i) 10#40#70# (ii) 30#40#50# (iii) 50#60#70# (iv) 40#50#70#

## Ch-6 : Exception Handling

Q1. Name the different types of Exceptions in Python.

Q2. Explain try and catch block with the help of an Example.

Q3. Explain different types of Exceptions in Python.

Q4. What are the advantages of Exception Handling?

Q5. When are the follwing built-in exception raised? Give examples.

(a) Import Error (b) IO Error (c) Name Error (d) Zero Division Error

Q6. What is the function of Except block in Exception handling? Where does it appear in a program?

## Ch-12 Relational Databases Ch-13 Simple Queries in SQL

## Ch-14 Table creation and Data Manipulation Commands

Q1. Convent Public School is maintaining fees records of students. The database administrator Atul decided that-

- Name of the database -School
- Name of the table – Fees
- The attributes of Fees are as follows:

Rollno - numeric
Name – character of size 20
Class - character of size 20
Fees – Numeric
Qtr – Numeric

1. Identify the attribute best suitable to be declared as a primary key.

2. Write the degree of the table.

3. Insert one record into the attributes Rollno, Name, Class, Fees and Qtr in Fees table. (10, Rohan, XII, 540, 2)

4. Aman want to remove the table Fees table from the database School.
Which command will he use from the following:
a) DELETE FROM Fees;
b) DROP TABLE Fees;
c)DROP DATABASE Fees;
d) DELETE Fees FROM Fees;

5. Now Atul wants to display the structure of the table Fees, i.e, name of the

attributes and their respective data types that he has used in the table. Write the query to display the same.

Q2. What are DDL and DML statements?

Q3. Differentiate between WHERE and HAVING clause

Q4. What is the purpose of GROUP BY clause?

Q5. In SQL, write the query to display the structure of table named "STOCK" stored in a database

Q6. Write the difference between DROP table and Truncate commands.

Q7. Write difference between Alternate key and Candidate key.

## Ch-16 : Interface Python with MySQL

Q1. The code given below inserts the following record in the table Student:

**RollNo – integer**

**Name – string**

**Class – integer**

**Marks – integer**

Note the following to establish connectivity between Python and MYSQL:

**Username is root**

**Password is root**

**The table exists in a MYSQL database named House.**

**The details (RollNo, Name, Clas and Marks) are to be accepted from the user.**

Write the following missing statements to complete the code:

Statement 1 – to form the cursor object

Statement 2 – to execute the command that inserts the record in the table Student.

Statement 3- to add the record permanently in the database

```
import mysql.connector as mysql
def sql_data():
```

```
con1=mysql.connect(host="localhost",user="root", password="root",
database="House")
    mycursor=_____ #Statement 1
    rno=int(input("Enter Roll Number :: "))
    name=input("Enter name :: ")
    class=int(input("Enter class :: "))
    marks=int(input("Enter Marks :: "))
    querry="insert into student values({},'{}',{},{})".format(rno,name,class,marks)
_____ #Statement 2
_____ # Statement 3
print("Data Added successfully")
```

Q2. Which package must be imported in Python to create a Database Connectivity Application?

Q3. New Era Public School is managing student data in 'School' database. Write a Python code that connects to database school and retrieves all records and displays total number of students.

Q4. Explain the following result retrieval methods with examples.

(1) fetchone( ) (2) fetchall( ) (3) fetchmany(n)

## Ch-15 Grouping Records, Joins in SQL

Q1. Consider the following tables EMP and SALGRADE, write the query for (i) to (vi) and output for (vii) to (x)

TABLE: EMPLOYEE

| ECODE | NAME | DESIG | SGRADE | DOJ | DOB |
|---|---|---|---|---|---|
| 101 | Vikrant | Executive | S03 | 2003-03-23 | 1980-01-13 |
| 102 | Ravi | Head-IT | S02 | 2010-02-12 | 1987-07-22 |
| 103 | John Cena | Receptionist | S03 | 2009-06-24 | 1983-02-24 |
| 105 | Azhar Ansari | GM | S02 | 2009-08-11 | 1984-03-03 |
| 108 | Priyam Sen | CEO | S01 | 2004-12-29 | 1982-01-19 |

TABLE: SALGRADE

| SGRADE | SALARY | HRA |
|---|---|---|
| S01 | 56000 | 18000 |
| S02 | 32000 | 12000 |
| S03 | 24000 | 8000 |

(i) To display details of all employee in descending order of their DOJ

(ii) To display NAME AND DESIG of those employees whose sgrade is either "S02" or "S03"

(iii)To display NAME, DESIG, SGRADE of those employee who joined in the year 2009

(iv) To display all SGRADE, ANNUAL_SALARY from table SALGRADE [where ANNUAL_SALARY = SALARY*12]

(V) To display number of employee working in each SALGRADE from table EMPLOYEE

(vi) To display NAME, DESIG, SALARY, HRA from tables EMPLOYEE and SALGRADE where SALARY is less than 50000

(vii) Select MIN(DOJ), MAX(DOB) from employee;

(viii) Select SGrade,Salary+HRA from SalGrade where Sgrade="S02";

(ix) Select count(distinct sgrade) from employee;

(x) Select sum(salary), avg(salary) from salgrade;

## Ch-7 Data Structures (STACK)

Q1. Write a function in Python,Push(item) where item is a dictionary containing the details of Computer Products-{name:price}. The function should push the names of those items who have price greater than 1000. Also display the count of elements pushed into the stack.
For Example: if the dictionary contain the following data:
Item ={"Mouse": 300,"CPU":2000,"Monitor":1000,"Printer":4000 ,"Scanner":3000}
The stack should contain: Scanner Printer CPU
The output should be : The count of the element in the stack is 3.

Q2. Write a Menu driven Program to implement stack operations using List.

Q3. Priya has a list of 10 integers. Help her to create a program with two user defined functions to perform the following operations based on this list.

- Traverse the content of the list and push those numbers into a stack which are divisible by both 5 and 3.

- Pop and display the content of the stack.

If the sample content of the list is as follows : L= [5,15,21,30,45,50,60,75]
Output of code : [75,60,45,30,15] [

Q4. Write Push(student) and Pop(student) methods to add a new student and delete a student from a list of student names & Phone no. Considering them to act as insert and delete operations of the Stack Data structure.

Q5. Find the output of the following code:

```
out =0
list=[40,60,30,70]
list.append(50)
out=out+list.pop( )
out=out+list.pop( )
out=out+list.pop( )
print(‘’ result= ‘’,out)
```

Q6. Write any 4 applications of stack.

## Ch-5 File Handling

Q1. Write a Program in Python that defines and calls the following user defined functions:

**a) add() –** To accept and add data of an employee to a CSV file ‘furdata.csv’.

Each record consists of a list with field elements as fid, fname and fprice to store furniture id, furniture name and furniture price respectively.

**b) search()-** To display the records of the furniture whose price is more than 10000.

Q2. Write a function ETCount() in Python, which should read each character of a text file “TESTFILE.TXT” and then count and display the count of occurrence of alphabets E and T individually (including small cases e and t too).

Example: If the file content is as follows:

**Today is a pleasant day.**

**It might rain today.**

**It is mentioned on weather sites**

The ETCount() function should display the output as:

The number of E or e: 6

The number of T or t : 9

Q3. Suppose content of 'Myfile.txt' is

Honesty is the best policy.

What will be the output of the following code?

```
myfile = open("Myfile.txt")
x = myfile.read()
print(len(x))
myfile.close()
```

a. 5
b. 25
c. 26
d. 27

Q4. Which of the following options can be used to read the first line of a text file Myfile.txt?

a) myfile = open('Myfile.txt'); myfile.read()
b) myfile = open('Myfile.txt','r'); myfile.read(n)
c) myfile = open('Myfile.txt'); myfile.readline()
d) myfile = open('Myfile.txt'); myfile.readlines()

Q5. A text file student.txt is stored in the storage device. Identify the correct option out of the following options to open the file in read mode.

i. myfile = open('student.txt','rb')
ii. myfile = open('student.txt','w')
iii. myfile = open('student.txt','r')
iv. myfile = open('student.txt')

a. only i
b. both i and iv
c. both iii and iv
d. both i and iii