Informatics Practices
Class – XI
Practical File Questions
Session : 2023-24

Python

1 Write a python code to input three numbers. Display the sum and average of three numbers.

2. Write a python code to calculate and display the following
   a) Area and perimeter of a square
   b) Area and perimeter of a rectangle
   Take side of square, and length and breadth of a rectangle as an input.

3. Write a python code to input the name and basic salary of an employee. Calculate and display the name, gross salary and net salary of the employee when:
   da = 30% of basic
   hra = 18% of basic
   pf = 12.5 % of basic
   gross = basic+da+hra
   net = gross – pf

4 Write a Python code to input three numbers and display the number.

5 The final velocity of a vehicle can be calculated by using the formula :

$v^2 = u^2+2$ as where u = initial velocity, v= final velocity, a = acceleration and d = distance covered. Write a python code to calculate and display the final velocity by taking, initial velocity, acceleration and distance covered as input.

6 Write a Python code to enter two unequal numbers. If the first number is smaller, then display the square of the smaller number and the cube of the greater number, otherwise vice versa. If the numbers are equal, then display the message “Both the numbers are same”

7 In an examination, the grades are awarded to the students in ‘Science’ according to the average marks obtained in the examination.

Marks	Grades
80% and above	Distinction
60% or more but less than 80%	First Division
45% or more but less than 60%	Second Division
40% or more but less than 45%	Pass
Less than 40%	Grade not awarded

Write a Python code to input name of the student and his/her marks in Physics, Chemistry and biology. Calculate the average marks. Display the name, average marks and the grade obtained.

8 Write a program to find and display the sum of any ten natural numbers using for loop.

9 Write a program to accept a number and check whether it is a prime number or not. Finally display the message accordingly. [Hint : A number is said to be prime number, if it has two factors. i.e. 1 and the number itself.]

10 Write a python program to display the first ten odd numbers starting from a number entered by the user. (Using while loop)

11 Write a program to find the difference between compound interest and simple interest. The program terminate, as soon as the user enter 0(zero). Take principal, rate and time as inputs from the console. (Using While loop)

12. Write a python code to print the given pattern:

a)
```
1
3 5
5 7 9
7 9 11 13
9 11 13 15 17
```

b)
```
1
1 0
1 0 1
1 0 1 0
1 0 1 0 1
```

13 Write a program that inputs a list, replicates its twice and prints the sorted list in ascending and descending order.

14 Write a python code to accept a set of integer numbers (using negative as well as positive numbers) in a list. Find and display the following:

a) Sum of negative numbers
b) Sum of positive even numbers
c) Sum of positive odd numbers

15 Write a python code to add five names in the list.

16 Write a menu driven program to perform the following operations on the list:

a) Add a new element
b) Delete the element by index
c) Delete the element by value

17 Write a Python code to accept the name of a student and create a dictionary by assigning marks secured by him /her in English,Maths and science subjects. As shown below:

Eng: 65
Maths: 82
Science:75

Display the name of the student along with total marks and averge.

18 Write a Python code to create a dictionary containing four products with their names as keys and their sales as values respectively. Display the dictionary with the names of the products and also the product having the highest sale.

19 Write a python code to input the name and phone number of 'n' number of employees. Create a dictionary 'Name_phone' to contain key and value as name and phone number of the employees, respectively. Display the key-value pairs in ascending order of the names.

MySQL :

1. To create a database MySchool
2. To create a student table with the student id, class, section, gender, name, dob, and marks as attributes where the student id is the primary key.

3. To insert the details of following 10 students in the above table.
   (1001, 11, B, Boy, Kavya Verma, 29/07/2005, 45)
   (1002, 12, A, Boy, Ravi, 29/06/2006, 25)
   (1003, 11, A, Girl, Kushali, 30/06/2005, 43)
   (1005, 12, B, Boy, Vimal, 12/09/2005, 28)
   (1006, 11, A, Girl, Ruchi, 17/10/2004, 29)
   (1009, 11, A, Girl, Ketaki, 24/07/2005, 11)
   (1010, 12, A, Boy, Rahul, 21/4/2004, 29)
   (1011, 12, B, Boy, Ketan, 3/02/2005, 22)
   (1014, 12, A, Boy, Sajal, 9/12/2004, 44)
   (1016, 11, B, Girl, Rajni, 18/11/2005, 45)
4. To delete the student whose Student id is 1005 in the above table.
5. To increase marks by 5% for those students who are in Class 12.
6. To display the entire content of the table Student
7. To display Rno, Name & Marks of students who are scoring marks more than 25.
8. To find the average of marks from the student table.
9. To find the number of students, who are from section 'A'.
10. To add a new column email in the above table with appropriate data type.
11. To add the email ids of each student in the previously created email column.
12. To display the information of all the students, whose name starts with 'RA'
13. To display Rno, Name, DOB of those students who are born after '2005- 01-01'
14. To display Rno, Name, DOB, Marks, Email of those male students in ascending order of their names.
15. To display Rno, Gender, Name, DOB, Marks, Email in in descending order of their marks.
16. To display the unique section available in the table.