ST STEPHEN'S GROUP OF SCHOOL
COMPUTER TERMINAL ASSIGNMENT 2024 – 2025
CLASS X

Question 1:

Shasha Travels Pvt. Ltd. gives the following discount to its customers:

Ticket Amount	Discount
Above Rs. 70000	18%
Rs. 55001 to Rs. 70000	16%
Rs. 35001 to Rs. 55000	12%
Rs. 25001 to Rs. 35000	10%
Less than Rs. 25001	2%

Write a program to input the name and ticket amount for the customer and calculate the discount amount and net amount to be paid. Display the output in the following format for each customer:

```
Sl. No.     Name    Ticket Charges     Discount      Net Amount
```

Question 2:

Write a menu driven program to accept a number from the user and check whether it is a Prime number or an Automorphic number.

(a) Prime number: (A number is said to be prime, if it is only divisible by 1 and itself)

Example: 3,5,7,11

(b) Automorphic number: (Automorphic number is the number which is contained in the last digit(s) of its square.)

Example: 25 is an Automorphic number as its square is 625 and 25 is present as the last two digits.

Question 3:

Write a Java program to Draw a pattern in BlueJ environment

```
                5
            4   4
        5   4   3
    2   2   2   2
5   4   3   2   1
```

Question 4:

Write a menu driven program to perform the following tasks by using Switch case statement:

(a) To print the series:
0, 3, 8, 15, 24, ... to n terms. (value of 'n' is to be an input by the user)

(b) To find the sum of the series:
S = (1/2) + (3/4) + (5/6) + (7/8) + ... + (19/20)

Question 5:

Write a program to input a number and print whether the number is a special number or not.

(A number is said to be a special number, if the sum of the factorial of the digits of the number is same as the original number).

Example:
145 is a special number, because 1! + 4! + 5! = 1 + 24 + 120 = 145.
(Where ! stands for factorial of the number and the factorial value of a number is the product of all integers from 1 to that number, example 5! = 1 * 2 * 3 * 4 * 5 = 120)

Question 6:

Write a program to input and sort the weight of ten people. Sort and display them in descending order using the selection sort technique.

Question 7:

Using a switch statement, write a menu driven program to:

(a) Generate and display the first 10 terms of the Fibonacci series

0, 1, 1, 2, 3, 5

The first two Fibonacci numbers are 0 and 1, and each subsequent number is the sum of the previous two.

(b) Find the sum of the digits of an integer that is input.

Sample Input: 15390

Sample Output: Sum of the digits = 18

For an incorrect choice, an appropriate error message should be displayed.

Question 8:

Write a program to input 10 integer elements in an array and sort them in descending order using bubble sort technique.

Question 9:

Write a class with the name overload using function overloading that computes the volume of a cube, a sphere and cuboid.

Formula:

1. Volume of a cube (vc)= S^3
2. Volume of sphere (vs)= $\frac{4}{3}\pi r^3$
3. Volume of cuboid (vcd)= l x b x h

Question 10:

Write a program to accept a number and check whether the number is Palindrome or not by using the function name reverse (int n). The function returns the reversed number to the main program that checks the Palindrome.

INSTRUCTIONS

1. Program **Questions must be printed** pasted on left side(white page)
2. Print the codes with comment lines in BlueJ Environment only and pasted on right side Do Not take any snapshot or screenshot of the code (ruled page)
3. Print the Outputs in BlueJ Environment only and must be printed , Do not take any snapshot or screenshot of the code pasted on left side.(white page/back of code page)
4. Variables list must be hand written on right side ruled page and the headings are as follows:

   - **Variable Name Type Purpose**
5. Finally write down the conclusion about your assignment and specify the software name with version and the total time taken to complete the task.
6. Use only A4 interleaf pages to complete the assignment
7. Use blue and black ball pen only
8. Prepare an **INDEX** of this assignment only printout is acceptable top of the first page
9. Use **A4 Size Hard cover practical** copy to complete the assignment