Practical No 1

Aim : Write A Program To Find Area Of Circle Using Obejct Oreinted Programming Such That The Class Circle Must Have Three Member Functions Namely : (read,compute,display)

This code snippet defines a C++ class called Circle that represents a circle. The class has three member variables: radius, circumference, and area. It also has three member functions: read(), compute(), and display().

The read() function is used to accept the radius of the circle from the user. It prompts the user to enter the radius and reads the input using cin.

The compute() function is used to calculate the circumference and area of the circle. It uses the formula 2 * 3.14 * radius to calculate the circumference and 3.14 * radius * radius to calculate the area.

The display() function is used to display the circumference and area of the circle. It prints the values of circumference and area to the console.

In the main() function, an object of the Circle class is created. The read() function is called to accept the radius from the user, the compute() function is called to calculate the circumference and area, and the display() function is called to display the results.

Overall, this code snippet demonstrates the basic usage of a C++ class and its member functions. User

Practical No 2

Aim : Program Based On Branching And Looping Statement Using Class.
A . Series
This C++ code defines a class called Sum that encapsulates the logic for calculating and displaying the sum of numbers and the sum of squares of numbers up to a user-inputted number.
The class has three main components:

1. Variable Declaration: The class has three public variables: num (the user-inputted number), sum (the sum of numbers from 1 to num), and squareSum (the sum of squares of numbers from 1 to num).
2. Input Function: The read() function prompts the user to enter a number, which is stored in the num variable.
3. Calculation Functions: The calculate() function calculates the sum of numbers from 1 to num and the sum of squares of numbers from 1 to num. It does this by iterating from 1 to num and updating the sum and squareSum variables accordingly.
4. Display Function: The display() function displays the calculated sums. It prints the sum of numbers from 1 to num and the sum of squares of numbers from 1 to num.

In the main() function, an object of the Sum class is created, the read() function is called to get user input, then the calculate() and display() functions are called to perform the calculations and display the results.

Overall, this code demonstrates object-oriented programming concepts in C++.

B. Switch
What is a Switch Statement?
A switch statement executes different blocks of code based on the value of a single expression. It compares the expression to multiple possible values and executes the corresponding code.
Application in the Code Snippet
The switch statement is used to determine the day of the week based on the user's input number (1-7). It compares the input number to the case labels and prints the corresponding day of the week.

Practical No 3

Aim : Write A Program To Print 2x2 Matrices And Array String Function.
A . Matrix
This C++ code snippet does the following:

1. It includes the iostream library, which provides input/output functionality.
2. It uses the using namespace std; statement, which allows the code to use standard library functions without explicitly specifying the std namespace.
3. The main() function is the entry point of the program.
4. It declares two integer variables row and col with initial values of 2.
5. It declares a 2D integer array matrix with dimensions row and col.
6. It then enters a nested loop to input values for each element of the matrix. It uses nested loops to iterate over the rows and columns of the matrix, and prompts the user to enter the value for each element.
7. After all the values are input, it enters another nested loop to display the matrix. It again uses nested loops to iterate over the rows and columns of the matrix, and prints each element.
8. Finally, it returns 0 to indicate successful execution.

Overall, this code snippet demonstrates the creation and manipulation of a 2D matrix using C++.

B.String Function
This C++ code snippet is a simple program that:

1. Asks the user to input their name using cout.
2. Stores the input in a character array name of size 100 using the gets function.
3. Prints out the stored name using cout.

However, it's worth noting that the gets function is deprecated due to security concerns (buffer overflow vulnerability). A safer alternative would be to use cin.getline or fgets to prevent potential buffer overflow issues.