ITM SKILLS UNIVERSITY Lets Upgrade

**Assignment 1 - C++ Basics**

| SR. No | List of Problem Statement |
|---|---|
| 1 | Implement a program to check if a given number is prime or not. |
| 2 | Write a C++ program to display the Fibonacci sequence up to N terms. |
| 3 | Implement a program to print the multiplication table of a given number. |
| 4 | Write a program that checks if a number is a perfect number. |
| 5 | Implement a program to find the roots of a quadratic equation. |
| 6 | Create a program to calculate the power of a number using a loop. |
| 7 | Create a program to check if a given string is a palindrome. |
| 8 | Implement a C++ program that simulates a simple ATM machine, allowing users to check their balance, deposit, or withdraw money using a switch statement. |
| 9 | Create a program to check if a character is a vowel or consonant. |
| 10 | Implement a program that finds the largest among three numbers using nested if-else statements. |
| 11 | Write a C++ program to check if a number is prime or composite. |
| 12 | Implement a program that determines the grade of a student based on their marks of 5 subjects. |
| 13 | Implement a program to find the GCD of two numbers using a for loop. |
| 14 | Write a C++ program to find the sum of digits of a number until it becomes a single-digit number. |
| 15 | Implement a program that generates a pattern of a pyramid using nested loops. |
| 16 | Implement a program to print a Pascal's triangle using nested loops. |
| 17 | Calculate the sum of series 1/1! + 2/2! + 3/3! + ... + N/N! using nested loops. |
| 18 | Create an array of strings and display them in alphabetical order. |
| 19 | Implement a program to reverse an array in-place. |
| 20 | Create a program that checks if an array is sorted in ascending order. |
| 21 | Write a program to find the majority element in an array (element appearing more than N/2 times). |
| 22 | Create a program to find the Kth smallest element in an array. |
| 23 | Calculate the sum of elements in each row of a matrix. |
| 24 | Write a program to generate all possible permutations of a string. |
| 25 | Create a C++ program to print the following pattern:<br><br>*****<br>*  *<br>*  *<br>*  *<br>***** |
| 26 | Write a C++ program to display the following pattern:<br><br>  1<br>  232<br>  34543<br>4567654<br>  34543<br>  232<br>  1 |