**Assignment Number:1**

Solution 1:

#include <iostream>

using namespace std;

int main() {

int number;

cout << "Enter a number: ";

cin >> number;

if (number % 2 == 0) {

cout << number << " is even." << endl;

} else {

cout << number << " is odd." << endl;

}

return 0;

}

Solution 2:

#include <iostream>

using namespace std;

int main() {

int n;

double sum = 0;

double average;

cout << "Enter the value of n: ";

cin >> n;

for (int i = 1; i <= n; ++i) {

sum += i;

}

average = sum / n;

cout << "The average of numbers from 1 to " << n << " is: " << average << endl;

return 0;

}

Solution 3:

#include <iostream>

using namespace std;

int main() {

int num1, num2, num3;

cout << "Enter three numbers: ";

cin >> num1 >> num2 >> num3;

if (num1 >= num2 && num1 >= num3) {

cout << num1 << " is the greatest number." << endl;

} else if (num2 >= num1 && num2 >= num3) {

cout << num2 << " is the greatest number." << endl;

} else {

cout << num3 << " is the greatest number." << endl;

}

return 0;

}

Solution 4:

#include <iostream>

using namespace std;

int main() {

int num1 = 5; // Binary: 0101

int num2 = 3; // Binary: 0011

int result\_and = num1 & num2; // Binary: 0001 (1 in decimal)

cout << "Bitwise AND: " << result\_and << endl;

int result\_or = num1 | num2; // Binary: 0111 (7 in decimal)

cout << "Bitwise OR: " << result\_or << endl;

int result\_xor = num1 ^ num2; // Binary: 0110 (6 in decimal)

cout << "Bitwise XOR: " << result\_xor << endl;

int num3 = 10; // Binary: 1010

int result\_not = ~num3; // Binary: 0101 (-11 in two's complement)

cout << "Bitwise NOT: " << result\_not << endl;

int num4 = 4; // Binary: 0100

int result\_left\_shift = num4 << 2; // Binary: 010000 (16 in decimal)

cout << "Left shift: " << result\_left\_shift << endl;

int num5 = 16; // Binary: 10000

int result\_right\_shift = num5 >> 2; // Binary: 0001 (1 in decimal)

cout << "Right shift: " << result\_right\_shift << endl;

return 0;

}

Solution 5:

#include <iostream>

using namespace std;

int main() {

int marks1, marks2, marks3;

double totalMarks, percentage;

cout << "Enter marks for subject 1: ";

cin >> marks1;

cout << "Enter marks for subject 2: ";

cin >> marks2;

cout << "Enter marks for subject 3: ";

cin >> marks3;

totalMarks = marks1 + marks2 + marks3;

percentage = (totalMarks / 300) \* 100;

cout << "\n--- Marksheet ---" << endl;

cout << "Subject 1 marks: " << marks1 << endl;

cout << "Subject 2 marks: " << marks2 << endl;

cout << "Subject 3 marks: " << marks3 << endl;

cout << "Total marks: " << totalMarks << endl;

cout << "Percentage: " << percentage << "%" << endl;

if (percentage >= 90) {

cout << "Grade: A+" << endl;

} else if (percentage >= 80) {

cout << "Grade: A" << endl;

} else if (percentage >= 70) {

cout << "Grade: B" << endl;

} else if (percentage >= 60) {

cout << "Grade: C" << endl;

} else if (percentage >= 50) {

cout << "Grade: D" << endl;

} else {

cout << "Grade: F" << endl;

}

return 0;

}

Solution 6:

#include <iostream>

using namespace std;

int main() {

char operation;

double num1, num2;

cout << "Enter operation (+, -, \*, /): ";

cin >> operation;

cout << "Enter first number: ";

cin >> num1;

cout << "Enter second number: ";

cin >> num2;

switch (operation) {

case '+':

cout << "Result: " << num1 + num2 << endl;

break;

case '-':

cout << "Result: " << num1 - num2 << endl;

break;

case '\*':

cout << "Result: " << num1 \* num2 << endl;

break;

case '/':

if (num2 != 0) {

cout << "Result: " << num1 / num2 << endl;

} else {

cout << "Error: Division by zero!" << endl;

}

break;

default:

cout << "Error: Invalid operation!" << endl;

}

return 0;

}