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**COURSE CODE: CSC 201**

**DEPARTMENTAL: SOFTWARE ENGINEERING**

1. Write a C++ program that calculates the sum of two numbers entered by the user and displays the result.

#include <iostream>

using namespace std;

int main(){

//progrtam that calculate the sum of two number enter by user and desplay the result

int x, y, sum;

cout << "Enter Two Number:";

cin >> x >> y;

sum = x + y;

cout <<"The Sum of "<< x << " and " <<y << " is " << sum << endl;

return 0;

}

1. Write a C++ program that calculates the area of a rectangle. Prompt the user to enter the length and width, then display the area.

#include <iostream>

using namespace std;

int main(){

// Calculation of Area Of A Rectangle

float length, width, Area;

cout <<"Enter The Length And Width Of The Rectangle: ";

cin >>length >> width;

Area = length \* width;

cout <<"The Area Is " << Area << endl;

return 0;

}

1. Create a C++ program that reads the radius of a circle from the user and calculates the circumference.

#include <iostream>

#define PI 3.14159

using namespace std;

int main() {

float radius, circumference;

cout << "Enter radius: ";

cin >> radius;

circumference = 2 \* PI \* radius;

cout << "Circumference is: " << circumference << endl;

return 0;

}

1. Write a C++ program to calculate and display the perimeter of a square given the side length entered by the user.

#include <iostream>

using namespace std;

int main() {

float side, perimeter;

cout << "Enter side length of the square ";

cin >> side;

perimeter = 4 \* side;

cout << "Perimeter of the square is " << perimeter << endl;

return 0;

}

1. Develop a C++ program to find the simple interest. The user should input Principal, Rate, and Time.

#include <iostream>

using namespace std;

int main(){

float P, R, T, simple\_interest;

cout << "Enter The Principal, Rate and Time:";

cin >> P >> R >> T;

simple\_interest = P \* R \* T / 100;

cout << "The Simple Interest Is: " << simple\_interest <<endl;

return 0;

}

1. Create a C++ program to convert temperature from Celsius to Fahrenheit. Prompt the user for the temperature in Celsius and display the equivalent in Fahrenheit.

//Converting Tempt from Celcius To Fahrenheit

#include <iostream>

using namespace std;

int main(){

float celcius, fahrenheit;

cout <<"What Value Do you Want To Covert?\n";

cout <<"Enter The Value ";

cin >> celcius;

fahrenheit = (celcius \* 9/5) + 32;

cout << "You Entetred " << celcius << " And The Value Is: " << fahrenheit << " In Fahrenheit. "<<endl;

return 0;

}

1. Write a C++ program to compute the average of three numbers entered by the user.

//Average Of Three Numbers

#include <iostream>

using namespace std;

int main(){

float a, b, c, Average;

cout <<"Enter Any Three Number To Calculate The Average" << endl;

cin >> a >> b >> c;

Average =(a + b + c)/ 3;

cout << "The Average Of " << a << "," << b << "," << c <<"," << " Is " << Average <<endl;

return 0;

}

1. Write a C++ program to find the volume of a cube. Let the user enter the side length.

// Volume of A cube

#include <iostream>

using namespace std;

int main(){

float side, volume;

cout << "Enter The length Of The Cube: ";

cin >> side;

volume = side \* side \* side;

cout << "The Volume Of The Cube Is: " << volume << endl;

return 0;

}

1. Write a C++ program that accepts the price of an item and a discount percentage, then calculates and displays the final price after discount.

// Price and Discount Percentage

#include <iostream>

using namespace std;

int main(){

float price, discount, final\_price;

cout << "Enter The Price and Discount: ";

cin >> price >> discount;

final\_price = price \* (1 - discount / 100 );

cout << "The Price is " << price << " And The Discount Is " << discount << " Therefore The Final Price Is " << final\_price<<endl;

return 0;

}

1. Write a C++ program that accepts two integers and displays their sum, difference, product, and quotient.

#include <iostream>

using namespace std;

int main(){

int x, y;

int sum;

int difference;

int product;

int quotient;

cout << "Enter Two Integers:";

cin >> x >> y;

sum = x + y;

difference = x - y;

product = x \* y;

quotient = x / y;

cout<< "The Sum Of " << x << " and "<< y << " Is: " << sum << "," << " The Diference Is: "

<< difference <<"," << " The Product Is " << product;

if(y !=0) cout<< " The Quotient Is: " << quotient;

else cout << "Cannot Divide By Zero" <<endl;

return 0;

}

1. Write a C++ program that reads an integer from the user and determines if it is positive, negative, or zero.

//Integer Reader

#include <iostream>

using namespace std;

int main(){

int digit;

cout << "Enter Any Integer: ";

cin >> digit;

if (digit > 0)

cout << "Positive Integer.";

else if (digit < 0)

cout << "Negative Integer.";

else

cout<< "Zero" <<endl;

return 0;

}

1. Write a C++ program that accepts a student's score and checks whether the student passed (score ≥ 50) or failed.

#include <iostream>

//Result Check

using namespace std;

int main(){

int score;

cout <<"Enter Your Score:";

cin >> score;

if (score >=50)

cout <<"Passesd";

else

cout << "Failed";

return 0;

}

13. Create a C++ program to check if a number entered by the user is even or odd.

//Even or Odd Number

#include <iostream>

using namespace std;

int main(){

int num;

cout << "Enter Any Number: ";

cin >> num;

if (num % 2 == 0)

cout << "Even Number";

else

cout << "Odd Numbedr" <<endl;

return 0;

}

1. Develop a C++ program that asks for a user's age and checks if the user is eligible to vote (age ≥ 18).

//Age Eligibility

#include <iostream>

using namespace std;

int main (){

int Age;

cout << "Enter Your Age:";

cin >> Age;

if (Age >=18 )

cout << "You Are Eligible to Vote.. ";

else

cout << "Not Eligible To Vote.." <<endl;

return 0;

}

1. Write a C++ program to find the largest of two numbers entered by the user.

// Largest Of Two NUmber

#include <iostream>

using namespace std;

int main(){

int a,b;

cout <<"Enter Two Number:";

cin >> a >> b;

if (a > b)

cout << a << " Is Larger";

else if ( b > a)

cout << b << " Is Larger";

else

cout << "Both Are Equal" <<endl;

return 0;

}

1. Create a C++ program that reads a temperature value and prints whether it is hot (above 30°C) or not hot.

//Tempt Reader

#include <iostream>

using namespace std;

int main(){

float temp\_value;

cout <<"Enter Temperature in Degree Celcius: ";

cin >>temp\_value;

if (temp\_value > 30)

cout << "The Whether Is Hot..";

else

cout <<"The Whether Is Not Hot.." <<endl;

return 0;

}

1. Write a C++ program that accepts the marks of a student and prints 'Distinction' if marks are above 75.

// Result Check

#include <iostream>

using namespace std;

int main(){

float mark;

cout <<"Enter Your Score: ";

cin >> mark;

if (mark>75)

cout << "Distincton"<<endl;

return 0;

}

1. Write a C++ program that asks for a number and checks whether it is a multiple of 5.

//Multiple of 5

#include <iostream>

using namespace std;

int main(){

int number;

cout << "Enter Any Number";

cin >> number;

if (number % 5 ==0)

cout << "The Number You Entered Is A Multiple Of 5..";

else

cout << "The Number You Entered Is Not A Multiple Of 5.."<<endl;

return 0;

}

1. Create a C++ program that accepts two integers and checks if they are equal.

// Numbers Check

#include <iostream>

using namespace std;

int main(){

int x,y;

cout << "Enter Two Integers: ";

cin >> x >> y;

if (x == y)

cout << x <<" And "<< y <<" Are Equal..";

else

cout << x <<" And "<< y << " Are Not Equal.." <<endl;

return 0;

}

1. Write a C++ program to check if a year entered by the user is a leap year or not (simplified, year divisible by 4).

// Leap Year Check

#include <iostream>

using namespace std;

int main(){

int year;

cout <<"Enter The Year:";

cin >> year;

if (year % 4 == 0)

cout << "Its A Leap Year.";

else

cout << "Its Not A Leap Year" << endl;

return 0;

}

1. Write a C++ program that prints all even numbers between 1 and 20 using a loop.

// Even Numbers Between 1 To 20

#include <iostream>

using namespace std;

int main(){

for (int x =1; x <=20; x++)

if (x % 2 == 0)

cout << x << endl;

return 0;

}

1. Write a C++ program that reads 10 numbers from the user and counts how many of them are positive.

// Number Reader

#include <iostream>

using namespace std;

int main(){

int number, count =0;

for (int i = 0; i < 10; i++){

cout <<"Enter A Number " <<i + 1 <<endl;

cin>> number;

if (number > 0)

count++;

}

cout << "Total Positive Numbers: " << count <<endl;

return 0;

}

1. Create a C++ program to find and display the factorial of a number entered by the user.

#include <iostream>

using namespace std;

int main() {

int number;

unsigned long long factorial = 1;

int x = 1;

cout << "Enter a positive integer: ";

cin >> number;

if (number < 0) {

cout << "Factorial is not defined for negative numbers.";

} else {

while (x <= number) {

factorial \*= x;

x++;

}

cout << "Factorial of " << number<< " Is " << factorial;

}

return 0;

}

1. Write a C++ program that asks the user to enter 5 integers and displays the maximum number among them.

//Maximum Number

#include <iostream>

using namespace std;

int main() {

int number, maximum;

cout << "Enter 5 integers:\n";

cin >> number;

maximum = number;

for (int i = 1; i < 5; ++i) {

cin >> number;

if (number > maximum)

maximum = number;

}

cout << "Maximum Number Is: " << maximum << endl;

return 0;

}

1. Develop a C++ program that continuously asks the user to enter numbers until the user enters -1. Then, display the sum of all entered numbers (excluding -1).

//Sum Of All The Entered Number

#include <iostream>

using namespace std;

int main() {

int number, sum = 0;

cout << "Enter Any Ramdom Numbers (Enter -1 If You Wish To Stop):\n";

while (true) {

cin >> number;

if (number == -1)

break;

sum += number;

}

cout << "Sum of numbers: " << sum << endl;

return 0;

}

1. Write a C++ program that accepts 5 numbers from the user and displays only the odd numbers among them.

// Odd Number

#include <iostream>

using namespace std;

int main() {

int num;

cout << "Enter 5 numbers:\n";

for (int i = 0; i < 5; ++i) {

cin >> num;

if (num % 2 != 0)

cout << "Odd number: " << num << endl;

}

return 0;

}

1. Write a C++ program that prints the multiplication table of a number entered by the user (up to 12).

// Multiplication Table

#include <iostream>

using namespace std;

int main() {

int number;

cout << "Enter a number: ";

cin >> number;

cout << "Multiplication table of " << number << ":\n";

for (int i = 1; i <= 12; ++i) {

cout << number << " x " << i << " = " << number \* i << endl;

}

return 0;

}

1. Create a C++ program to find the sum of all odd numbers between 1 and 50 using a loop.

// Sum Of All Odd Number

#include <iostream>

using namespace std;

int main() {

int sum = 0;

for (int i = 1; i <= 50; i += 2) {

sum += i;

}

cout << "The Sum of All The Odd Numbers From 1 to 50 Is: " << sum << endl;

return 0;

}

1. Develop a C++ program that reads numbers until the user enters zero, and then displays the number of even numbers entered.

// Even Number Display

#include <iostream>

using namespace std;

int main() {

int num, count = 0;

cout << "Enter numbers (enter 0 to stop):\n";

while (true) {

cin >> num;

if (num == 0)

break;

if (num % 2 == 0)

count++;

}

cout << "Total even numbers entered: " << count << endl;

return 0;

}

1. Write a C++ program that asks the user to enter 5 scores and then displays how many of them are greater than or equal to 50.

#include <iostream>

using namespace std;

int main()

int score, count = 0;

cout << "Enter 5 scores:\n";

for (int i = 0; i < 5; ++i) {

cin >> score;

if (score >= 50)

count++;

}

cout << "Number of scores >= 50: " << count << endl;

return 0;

}