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1. Write a program that calculate the sum of numbers from 1 to 100

#include <iostream>

using namespace std;

int main() {

int sum = 0;

for (int i = 1; i <= 100; i++) {

sum += i;

}

cout << "The sum of numbers from 1 to 100 is " << sum << endl;

return 0;

}

1. Write a program that display numbers between 0-100 that are divisible by 2,3 and 5. The numbers displayed should be those that can be divided by 2, 3 and 5 without remainder

#include <iostream>

using namespace std;

int main() {

for (int i = 0; i <= 100; i++) {

if (i % 2 == 0 && i % 3 == 0 && i % 5 == 0) {

cout << i << endl;

}

}

return 0;

}

1. Write a program that calculate factorial using for loop, while loop and do while loops. The program should accept the number and then perform the calculation of the factorial

Using for loop:

#include <iostream>

using namespace std;

int main() {

int num, factorial = 1;

cout << "Enter a number: ";

cin >> num;

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

factorial \*= i;

}

cout << "Factorial of " << num << " = " << factorial << endl;

return 0;

}

Using while loop:

#include <iostream>

using namespace std;

int main() {

int num, factorial = 1, i = 1;

cout << "Enter a number: ";

cin >> num;

while (i <= num) {

factorial \*= i;

i++;

}

cout << "Factorial of " << num << " = " << factorial << endl;

return 0;

}

Using do while loop:

#include <iostream>

using namespace std;

int main() {

int num, factorial = 1, i = 1;

cout << "Enter a number: ";

cin >> num;

do {

factorial \*= i;

i++;

} while (i <= num);

cout << "Factorial of " << num << " = " << factorial << endl;

return 0;

}

1. Write a while loop that prints the average of numbers from 1 to 10

#include <iostream>

using namespace std;

int main() {

int num = 1, sum = 0, count = 0;

while (num <= 10) {

sum += num;

num++;

count++;

}

double avg = (double) sum / count; // calculate the average

cout << "Average of numbers from 1 to 10 is: " << avg << endl;

return 0;

}

1. Write a program that accept any character from keyboard and display whether it is vowel or not

#include <iostream>

using namespace std;

int main() {

char ch;

cout << "Enter a character: ";

cin >> ch;

if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u' ||

ch == 'A' || ch == 'E' || ch == 'I' || ch == 'O' || ch == 'U') {

cout << "The entered character " << ch << " is a vowel." << endl;

} else {

cout << "The entered character " << ch << " is a consonant." << endl;

}

return 0;

}

1. Write a program that gives grade based on the following scale using if else statement:

>=95 🡪 A+ 85-94🡪A 80-84🡪A- 75-79🡪B+ 70-74🡪B 65-69🡪B- 60-64🡪C+ 50-59🡪C <50🡪 F

#include <iostream>

using namespace std;

int main() {

int score;

cout << "Enter your score: ";

cin >> score; //read score into score variable

if (score >= 95) {

cout << "Your grade is: A+" << endl;

} else if (score >= 85 && score <= 94) {

cout << "Your grade is: A" << endl;

} else if (score >= 80 && score <= 84) {

cout << "Your grade is: A-" << endl;

} else if (score >= 75 && score <= 79) {

cout << "Your grade is: B+" << endl;

} else if (score >= 70 && score <= 74) {

cout << "Your grade is: B" << endl;

} else if (score >= 65 && score <= 69) {

cout << "Your grade is: B-" << endl;

} else if (score >= 60 && score <= 64) {

cout << "Your grade is: C+" << endl;

} else if (score >= 50 && score <= 59) {

cout << "Your grade is: C" << endl;

} else if (score < 50) {

cout << "Your grade is: F" << endl;

} else {

cout << "Invalid score entered." << endl;

}

return 0;

}

1. Write a program that display greatest of three numbers using if statement accept input from user

#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." << endl;

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

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

} else {

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

}

return 0;

}

1. Write a program that accept three numbers from the user and prints “increasing” if the numbers are in increasing order “decreasing” if the numbers are in decreasing order and “neither increasing nor decreasing order” otherwise

#include <iostream>

using namespace std;

int main() {

int num1, num2, num3;

cout << "Enter three numbers: ";

cin >> num1 >> num2 >> num3;

if (num1 < num2 && num2 < num3) {

cout << "Increasing order" << endl;

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

cout << "Decreasing order" << endl;

} else {

cout << "Neither increasing nor decreasing order" << endl;

}

return 0;

}

1. Write a program to calculate sum, average and check your grade status, if pass or fail

#include <iostream>

using namespace std;

int main() {

int marks1, marks2, marks3;

float sum, avg;

cout << "Enter your marks in three subjects: ";

cin >> marks1 >> marks2 >> marks3;

sum = marks1 + marks2 + marks3;

avg = sum/3;

cout << "Your total marks are: " << sum << endl;

cout << "Your average marks are: " << avg << endl;

if (avg >= 40) {

cout << " passed" << endl;

} else {

cout << " failed." << endl;

}

return 0;

}

1. Suppose x=3 and y=2; show the output, if any, of the following code. What is the output if x=3 and y=4? What is the output if x=2 and y=2?

If x= 3 any y =2 output: x is 3

if x=3 and y=4 output: z is 7

if x=2 and y=2 no output

11.Draw a flowchart of the code.

If(x>2) {

If(y>2) {

Int z = x+y;

Cout<<”z is “<<z<<endl:

}

} else

Cout<<”x is “<<x<<endl;

PRINT X

NO

YES

CHECK IF X>2

PRINT Z

CALCULATE Z=X+Y

YES

CHECK IFY>2