**E**xercises from chapter 3

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

**Answer**

Here is a sample C++ program that calculates 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;

}

2. Write a program that displays 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.

**Answer**

Here's a C++ program that can display numbers between 0-100 that are evenly divisible by 2, 3, and 5.

#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;

}

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

**Answer**

Sure! Here is the C++ code to calculate factorial using for loop, while loop and do while loops:

#include <iostream> using namespace std;

int main() {

int num, fact = 1;

// Using for loop

cout << "Enter a number to find its factorial using for loop: ";

cin >> num;

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

{

}

num <<

fact \*= i;

"1

cout << "Factorial of <<

"1

using for loop is:

<< fact << endl;

// Using while loop

fact = 1;

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cout << "Enter a number to find its factorial using while

loop: ";

cin >> num;

int j = 1;

while(j <= num) {

fact \*= j;

j++;

}

"I

cout << "Factorial of <<

Onum << using while loop is: << fact << endl;

// Using do-while loop fact = 1;

cout << "Enter a number to find its factorial using do-while loop: ";

num

cin >> num;

int k = 1;

do {

fact \*= k;

k++;

} while(k <= num);

cout << "Factorial of "

num << using do-while loop is: " << fact << endl;

return 0;

&}

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

**Answer**

Here's an example of a c++ while loop that prints the average of numbers from 1 to 10:

#include<iostream> using namespace std;

int main()

{

int count = 1, sum

=

0;

float average;

while (count <= 10) { sum += count; count++;

}

=

average sum / 10.0;

cout << "The average is:

<< average << endl;

return 0;

}