BUBT | BANGLADESH UNIVERSITY OF BUSINESS AND TECHNOLOGY

Course NO : CSE-121
Course Name : Objective Oriented Programing Language

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/*1.Write a C++ program to find out first n
perfect number where n is the input from user*/

```
#include <iostream>
#include <cctype>
using namespace std;

int main(){
   int n,i=1,sum=0;
   cout << "Enter a number: ";
   cin >> n;
      while(i<n){
      if(n%i==0)
      sum=sum+i;
      i++;
}

if(sum==n)
   cout << i << " is a perfect number\n";
else
   cout << i << " is not a perfect number\n";
   system("pause");

return 0;
}
```

/*2. Write a C++ program to find first n
Fibonacci number where n is the input from user.*/

```
#include <iostream>
using namespace std;

int main() {
   int n, t1 = 0, t2 = 1, nextTerm = 0;

   cout << "Enter the number of terms: ";
   cin >> n;

   cout << "Fibonacci Series: ";

   for (int i = 1; i <= n; ++i) {
      // Prints the first two terms.
      if(i == 1) {
         cout << t1 << ", ";
         continue;
      }
      if(i == 2) {
         cout << t2 << ", ";
         continue;
      }
      nextTerm = t1 + t2;
      t1 = t2;
      t2 = nextTerm;

      cout << nextTerm << ", ";
   }
   return 0;
}
```

```
/*3.Write a C++ program to print out all Armstrong
 number between 1 and 10000 */

#include <iostream>
#include <cmath>
using namespace std;

int main() {

  int num1, num2, i, num, digit, sum, count;

  cout << "Enter first number: ";
  cin >> num1;

  cout << "Enter second number: ";
  cin >> num2;

  if (num1 > num2) {
    num1 = num1 + num2;
    num2 = num1 - num2;
    num1 = num1 - num2;
  }

  cout << "Armstrong numbers between " << num1 << " and " << num2
<< " are: " << endl;

  for(i = num1; i <= num2; i++) {

    count = 0;

    num = i;

    while(num > 0) {
      ++count;
      num /= 10;
    }
```

```
    sum = 0;

    num = i;

    while(num > 0) {
      digit = num % 10;
      sum = sum + pow(digit, count);
      num /= 10;
    }


    if(sum == i) {
      cout << i << ", ";
    }
  }

  return 0;
}
```

/*4.Write a function which receives a float and an int from main(), finds the product of these two and returns the product which is printed through main() in C++.*/

```
#include<iostream>
#include<conio.h>
using namespace std;

float prod(float a, int b);

int main()
{
	float num1;
	int num2;
	cout<<"Enter Decimal value: ";
	cin>>num1;
	cout<<"Enter Integer value: ";
	cin>>num2;
	cout<<"Product of Two Numbers is: "<<prod(num1,num2);

	getch();
}
float prod(float a, int b)
{
	float pro;
	pro=a*b;
	return pro;
}
```

```
/*5.Write a C ++ program which will take an input from
user and calculate the grade of a student according
to BUBT grading policy based on that input.*/

#include<iostream>
using namespace std;
int main()
{
int A;
cin>>A;
if (A>=80)
cout<<"mark is A+";
else if (A>=75 && A<80)
cout<<"mark is A";
else if (A>=70 && A<75)
 cout<<"mark is A-";
else if (A>=65 && A<70)
cout<<"mark is B+";
else if (A>=60 && A<65)
cout<<"mark is B";
else if (A>=55 && A<60)
cout<<"mark is B-";
else if(A>=50 && A<55)
cout<<"mark is C+";
else if (A>=45 && A<50)
cout<<"mark is C";
else if (A>=40 && A<45)
cout<<"mark is D";
else
cout<<"mark is F";
return 0;
}
```