



الأسبوع "السابع" برمجة حاسوب "C++"

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Write a C++ program to find :

(1) sum even Factors

(2) sum digites

* نقوم بحل كل مربع على حدة :

(1) int x, sum = 0;

cin >> x;

for (int i = 2; i <= x; i += 2)

{

if (x % i == 0)

sum += i;

} cout << sum << endl;

(2) int x, y

cin >> x;

y = x;

while (y)

{

sum = sum + (y % 10);

y /= 10;

}

cout << sum << endl;

* اذا أردنا القيام بعمليات على المتغير x من الاوائل نحفظ قيمته في متغير آخر

Write a C++ program to find sum even number between A & B (inclusive) and sum odd number

```
int x, y, sum0 = 0, sume = 0;
```

```
cin >> x >> y;
```

```
int max = a < b ? b : a;
```

```
int min = a < b ? a : b;
```

```
for (int i = min; i <= max; i++)
```

```
{
```

```
    if (i % 2 == 0)
```

```
        sume += i;
```

```
    else
```

```
        sum0 += i;
```

```
}
```

```
cout << sum0 << endl;
```

```
cout << sume << endl;
```


write a C++ program to find if the number is wonderful or not

Wonderful number is the sum of zero equal Sum of one in a binary

input: 9

1001

output: Wonderful

```
int x, c0=0, c1=0, y;  
cin >> x;  
int n=x;
```

```
while (n)
```

```
{ y = n%2;  
  n /= 2;
```

```
  if (y == 0)  
    c0++;
```

```
  else
```

```
    c1++;
```

```
}
```

```
if (c0 == c1)
```

```
  cout << "wonderful" << endl;
```

```
else
```

```
  cout << "not wonderful" << endl;
```

* في حال لم يطلب كتابة العدد في النظام الثنائي يكون ↑ الحل

* في حال طلب السؤال كتابة العدد في النظام الثنائي

```
int x, y, b=0, r, f=1, count0=0,  
count1=0;
```

```
Cin >> x;
```

```
y = x;
```

```
while (y)
```

```
{
```

```
    r = y % 2;
```

```
    b = b + r * f;
```

```
    f *= 10;
```

```
    y /= 2;
```

```
}
```

```
cout << b << endl;
```

```
while (b)
```

```
{
```

```
    r = b % 10;
```

```
    if (r == 1)
```

```
        count0 ++;
```

```
    else
```

```
        count1 ++;
```

```
}
```

```
if (count0 == count1)
```

```
    cout << "wonderful" << endl;
```

Write a C++ program :

Given a number N Determine whether N is Armstrong or not.

ex : $\boxed{153} = \overset{\text{Cubes}}{3^3} + \underline{5^3} + \underline{1^3} = 27 + 125 + 1 = \boxed{153}$

```
int x, pow = 0, r, y, Sum = 0, z;  
cin >> x;  
y = x;  
while (y)  
{ y /= 10;
```

```
    pow ++;
```

```
    r = x;
```

```
    while (r)
```

```
    { int res = 1;
```

```
      z = r % 10;
```

```
      for (int i = 0; i < pow; i++)
```

```
      res = res * i;
```

```
      Sum += res;
```

```
      r /= 10;
```

```
    }
```

```
    if (Sum == x)
```

```
        cout << "Armstrong" << endl;
```

```
    else
```

```
        cout << "Not Armstrong" << endl;
```


Q For loop to print sum of five first odd number starting from 1.

```
int count = 0, n;
cin >> n;
int i = 1;
while (count < n)
{
    int sum = i;
    i = i + 2;
    count++;
}
```

[count <= n * n <= endl;

Ali has A Cookies and Omar has B Cookies
 you will do the following action k times
 - if Ali has one or more Cookies, eat one of his Cookies otherwise if Omar has one or more Cookies eat one of Omar's Cookies
 if they both have no Cookies: do nothing
 in the end, how many Cookies will Ali and Omar have

K	Ali	Omar
3	5	4
5	3	4

if $(x+y) \geq k$
 $y = y - (k - x)$