SET-12

2. What is the first triangle number to have over five hundred divisors?

Solution:

#include <iostream.h>

#include <math.h>

using namespace std;

int getDivisorCount(unsigned int number)

{

unsigned int count = 0;

unsigned int sqrt\_ = sqrt(number);

for(unsigned int i = 1; i <= sqrt\_; i++)

{

if((number % i) == 0)

count+=2;

}

if (sqrt\_ \* sqrt\_ == number)

{

count--;

}

return count;

}

int main()

{

unsigned int number = 0;

for (unsigned int i = 1; ; i++)

{

number+=i;

if(getDivisorCount(number)>500)

break;

}

cout << number;

return 0;

}