**MAXIMUM NUMBER OF DIVISORS OF ANY NUMBER UPTO N:**

**SOURCE CODE:**

#include <bits/stdc++.h>

unsigned long long n, res;

int p, primes[] = {2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 51, 53, 59, 61, 67, 71};

unsigned long long mul(unsigned long long a, unsigned long long b){

unsigned long long res = 0;

while (b){

if (b & 1LL) res = (res + a);

if (res >= n) return 0;

a = (a << 1LL);

b >>= 1LL;

}

return res;

}

void backtrack(int i, int lim, unsigned long long val, unsigned long long r){

if (r > res) res = r;

if (i == p) return;

int d;

unsigned long long x = val;

for (d = 1; d <= lim; d++){

x = mul(x, primes[i]);

if (x == 0) return;

backtrack(i + 1, d, x, r \* (d + 1));

}

}

int main(){

/\* Tested for n <= 10^18 \*/

p = sizeof(primes) / sizeof(int);

while (scanf("%llu", &n) != EOF){

res = 0;

backtrack(0, 100, 1, 1);

printf("Maximum number of divisors of any number less than %llu = %llu\n", n, res);

}

return 0;

}