**Практическая работа № 3**

Вариант 30

Проверил: Выполнили:

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#include <iostream>

using namespace std;

int check\_prime(int);

int main() {

int n1, n2;

bool flag;

cout << "Enter two positive integers: ";

cin >> n1 >> n2;

// swapping n1 and n2 if n1 is greater than n2

if (n1 > n2) {

n2 = n1 + n2;

n1 = n2 - n1;

n2 = n2 - n1;

}

cout << "Prime numbers between " << n1 << " and " << n2 << " are:\n";

for (int i = n1 + 1; i < n2; ++i) {

// if i is a prime number, flag will be equal to 1

flag = check\_prime(i);

if (flag)

cout << i << ", ";

}

return 0;

}

// user-defined function to check prime number

int check\_prime(int n) {

bool is\_prime = true;

// 0 and 1 are not prime numbers

if (n == 0 || n == 1) {

is\_prime = false;

}

for (int j = 2; j <= n / 2; ++j) {

if (n % j == 0) {

is\_prime = false;

break;

}

}

return is\_prime;

}

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|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *j* | Оператор |  | *i* | Операнд |  |
| *1.* | Заголовок функций | 2 | *1.* | n1 | 9 |
| *2.* | …() – вызов функций | 6 | *2.* | n2 | 10 |
| *3.* | = | 9 | *3.* | flag | 3 |
| *4.* | , | 1 | *4.* | is\_prime | 4 |
| *5.* | For(..) | 2 | *5.* | i | 5 |
| *6.* | < | 1 | *6.* | j | 4 |
| *7.* | ++ | 2 | *7.* | n | 5 |
| *8.* | if | 4 |  |  |  |
| *9.* | return | 2 |  |  |  |
| *10.* | ; | 15 |  |  |  |
| *11.* | () | 10 |  |  |  |
| *12.* | {} | 6 |  |  |  |
| *13.* | + | 2 |  |  |  |
| *14.* | - | 2 |  |  |  |
| *15.* | == | 3 |  |  |  |
| *16.* | <= | 1 |  |  |  |
| *17.* | || | 1 |  |  |  |
| *18.* | % | 1 |  |  |  |
| *19.* | break | 1 |  |  |  |
| *= 19* |  | 71 | 7 |  | 40 |

Словарь программы: 19+7 = 26  
Длина программы: 71+ 40 = 111

Объем программы: V = 111 \* log2(26)= 522