

```
[(base) dostoyevsky:prog_1 mdrozdov$ ./primes

Michael Drozdov
CIS 9310 Programming Assignment 1

Enter starting value for prime list: 80

Enter ending value for prime list: 199
83 89 97 101 103
109 113 127 131 137
149 151 157 163 167
179 181 191 193 197

Would you like to generate another sequence of primes? (y/n)y

Enter starting value for prime list: 2

Enter ending value for prime list: 100
2 3 5 7 11
17 19 23 29 31
41 43 47 53 59
67 71 73 79 83
97

Would you like to generate another sequence of primes? (y/n)y

Enter starting value for prime list: 5

Enter ending value for prime list: 5
5

Would you like to generate another sequence of primes? (y/n)n
(base) dostoyevsky:prog_1 mdrozdov$ █
```

```
#include <iostream>
#include <vector>
#include <math.h>

std::vector<int> range(int x_lower, int x_upper, int step = 1)
{
    std::vector<int> v;
    while(1) {
        if(x_lower > x_upper){
            break;
        }
        v.push_back(x_lower);
        x_lower += step;
    }
    return v;
}

int main()
{
    int x_lower, x_upper, check_lim, endl_check;
    char yes_no_var;

    std::cout << std::endl <<
    "Michael Drozdov" << std::endl <<
    "CIS 9310 Programming Assignment 1" <<
    std::endl;

    do {

        std::cout << std::endl <<
            "Enter starting value for prime list: ";
        std::cin >> x_lower;

        std::cout << std::endl <<
            "Enter ending value for prime list: ";
        std::cin >> x_upper;
```

```
std::vector<int> num_list;
num_list = range(x_lower,x_upper);

std::vector<int> primes_list;

for (auto num : num_list)
{
    std::vector<int> check_list;
    check_lim = pow(num,0.5);

    std::vector<int> check_range;
    check_range = range(2,check_lim);

    for (auto i : check_range)
    {
        check_list.push_back(num % i == 0);
    }

    if(std::any_of(check_list.begin(),check_list.end(),
[] (bool k){return k == true;}))
    {continue;}
    else if(num != 1)
    {
        primes_list.push_back(num);
    }
}

endl_check = 0;
for(auto prime : primes_list)
{
    if (endl_check == 5)
    {
        std::cout << std::endl;
        endl_check = 0;
    }
}
```

```
    }  
    else  
    {  
        std::cout << prime << " ";  
        endl_check++;  
    }  
}  
  
std::cout << std::endl <<  
    "Would you like to generate another sequence of primes?  
(y/n)";  
std::cin >> yes_no_var;  
  
}  
while(yes_no_var == 'y');  
  
return 0;  
}
```