

```
//File name: factors.cpp
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// Creation date: 2/22/2019
/* Synopsis: This program print the factors of integers within a certain
range. */
```

```
#include <iostream>
#include <cmath>
using namespace std;
```

```
int main() {
```

```
    int lowInt; //low end of range
    int highInt; //high end of range
```

```
    cout << "Enter low integer: ";
    cin >> lowInt;
```

```
    while (lowInt <= 1){
        cout << "Number must be greater than 1." << endl;
        cout << "Enter low integer again: ";
        cin >> lowInt;
    }
```

```
    cout << "Enter high integer: ";
    cin >> highInt;
```

```
    while(highInt < lowInt){
        cout << "Number must be greater or equal to " << lowInt << endl;
        cout << "Enter high integer again: ";
        cin >> highInt;
    }
```

```
    cout << endl;
```

```
    cout << "Factors of all numbers in the range: [ " << lowInt << ", "
        << highInt << " ]" << endl;
```

```
    int i(0); //loop variable for the outer loop
    int j(0); //loop variable for the inner loop
```

```
    for ( i = lowInt; i <= highInt; i++ ){
        cout << i << ": ";
```

```
        for (j = 1; j <= highInt; j++){
```

```
            /*The reason to put " && i / j = 1 " is to make sure that the last
value
of the factors will not represent a comma
*/
```

```
            if (i % j == 0 && i / j != 1){
```

```
                cout << j << ", ";
```

```
    }

    /* The reason to put this 'else if' is to make sure that the last
value    of the factors will only show the last value
    */

    else if (i == j){

        cout << j;

    }

}

cout << endl;

}

return 0;

}
```