Lab 6

On Cloud9, create a folder named "lab6" in your cse201 workspace. Store all your work for lab 6 in that folder. Have 2 files per excercise: the source file and the compiled program.

For this lab, you will create new data types using classes. The classes that you make should work with the code I provide.

Excercise 1

Create a class named URI. It will contain the following public variables:

```
string protocol;
string domain;
int port;
string path;
```

and the following function:

```
string build() const;
```

The build function will generate a URI string from the protocol, domain, port, and path variables.
Include this main function in your program:

```
int main()
{
    URI uri;
    uri.protocol = "http"s;
    uri.domain = "some-website.com"s;
    uri.port = 80;
    uri.path = "/index.html"s;
    cout << uri.build() << endl;
}
```

The program should display:

```
http://some-website.com:80/index.html
```

Name your source file uri.cpp

Exercise 2

Create a class named Vector. It will contain the following public variables:

```
double x, y;
```

and the following public functions:

```
void add(const Vector& v);
void subtract(const Vector& v);
void multiply(double s);
```

Implement the public member functions so that they work with this main function:

```
int main()
{
    Vector v = {5.0, 8.0};
    v.add({2.0, 3.0});
    v.multiply(10.0);
    v.subtract({1.0, 6.0});
    cout << v.x << ' ' << v.y << endl;
}
```

The program should display:

```
69 104
```