

## Lab 5

On Cloud9, create a folder named “lab7” in your cse201 workspace. Store all your work for lab 7 in that folder. Have 2 files per exercise: the source file and the compiled program.

### Exercise 1

An arithmetic sequence is a sequence of numbers where the difference between two consecutive numbers is always the same.

Create a class that represents an arithmetic sequence so that it works with the following main function:

```
int main()
{
    int i;
    ArithmeticSequence as = 5;

    for (i = 0; i < 5; ++i)
        cout << as[i] << ' ';
    cout << endl;
}
```

Your program should display:

```
0 5 10 15 20
```

### Exercise 2

Complete the code in the Vector class, it should work similar to how the Vector class in the previous lab worked.

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

class Vector {
public:
    double x, y;

    Vector operator+(const Vector& v) const
    {

    }

    Vector operator-(const Vector& v) const
    {

    }

    Vector operator*(double s) const
```

```
    {  
    }  
};  
  
int main()  
{  
    Vector v = { 5.0, 8.0 };  
    v = v + Vector{ 2.0, 3.0 };  
    v = v - Vector{ -4.0, 6.0 };  
    v = v * 2.0;  
    cout << v.x << ' ' << v.y << endl;  
}
```

The program should output: 22 10