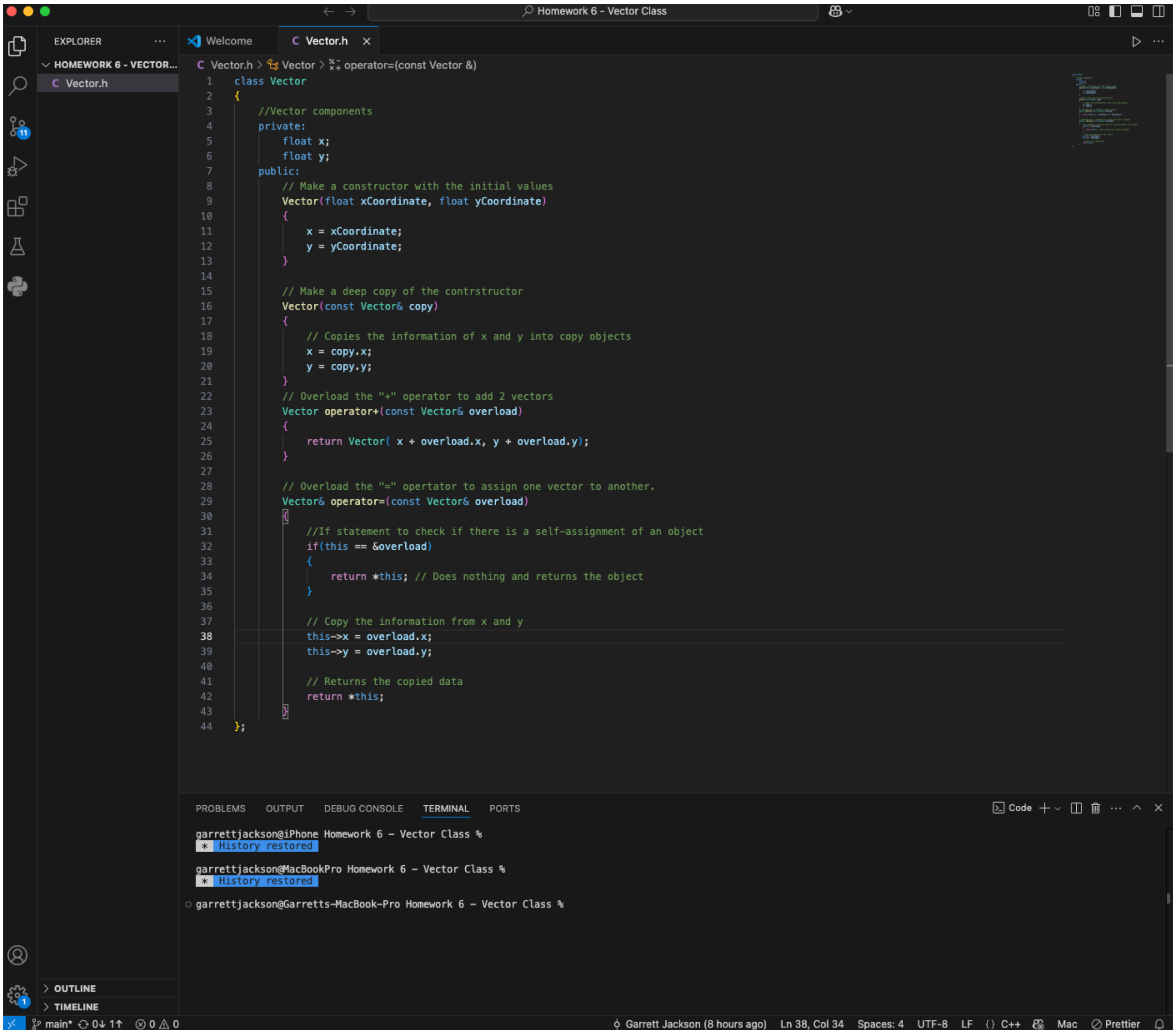
1 . Create a Vector class

Implement a Vector class that models a 2D vector in geometry.

The class should store two float values: x and y (representing vector components).

It must include:

- A constructor that takes x and y.
- A copy constructor that creates a deep copy of a Vector.
- An overloaded + operator to add two vectors.
- An overloaded = operator to assign one vector to another.



```cpp
class Vector
{
    //Vector components
    private:
        float x;
        float y;
    public:
        // Make a constructor with the initial values
        Vector(float xCoordinate, float yCoordinate)
        {
            x = xCoordinate;
            y = yCoordinate;
        }

        // Make a deep copy of the contrstructor
        Vector(const Vector& copy)
        {
            // Copies the information of x and y into copy objects
            x = copy.x;
            y = copy.y;
        }
        // Overload the "+" operator to add 2 vectors
        Vector operator+(const Vector& overload)
        {
            return Vector( x + overload.x, y + overload.y);
        }

        // Overload the "=" opertator to assign one vector to another.
        Vector& operator=(const Vector& overload)
        {
            //If statement to check if there is a self-assignment of an object
            if(this == &overload)
            {
                return *this; // Does nothing and returns the object
            }

            // Copy the information from x and y
            this->x = overload.x;
            this->y = overload.y;

            // Returns the copied data
            return *this;
        }
};
```

```
garrettjackson@iPhone Homework 6 - Vector Class %
 *  History restored

garrettjackson@MacBookPro Homework 6 - Vector Class %
 *  History restored

garrettjackson@Garretts-MacBook-Pro Homework 6 - Vector Class %
```

class Vector

{

```
//Vector components
private:
    float x;
    float y;
public:
    // Make a constructor with the initial values
    Vector(float xCoordinate, float yCoordinate)
    {
        x = xCoordinate;
        y = yCoordinate;
    }

    // Make a deep copy of the contrstructor
    Vector(const Vector& copy)
    {
        // Copies the information of x and y into copy objects
        x = copy.x;
        y = copy.y;
    }
    // Overload the "+" operator to add 2 vectors
    Vector operator+(const Vector& overload)
    {
        return Vector( x + overload.x, y + overload.y);
    }


    // Overload the "=" opertator to assign one vector to another.
    Vector& operator=(const Vector& overload)
    {
      //If statement to check if there is a self-assignment of an object
      if(this == &overload)
      {
        return *this; // Does nothing and returns the object
      }

      // Copy the information from x and y
      this->x = overload.x;
      this->y = overload.y;

      // Returns the copied data
      return *this;
    }
};
```