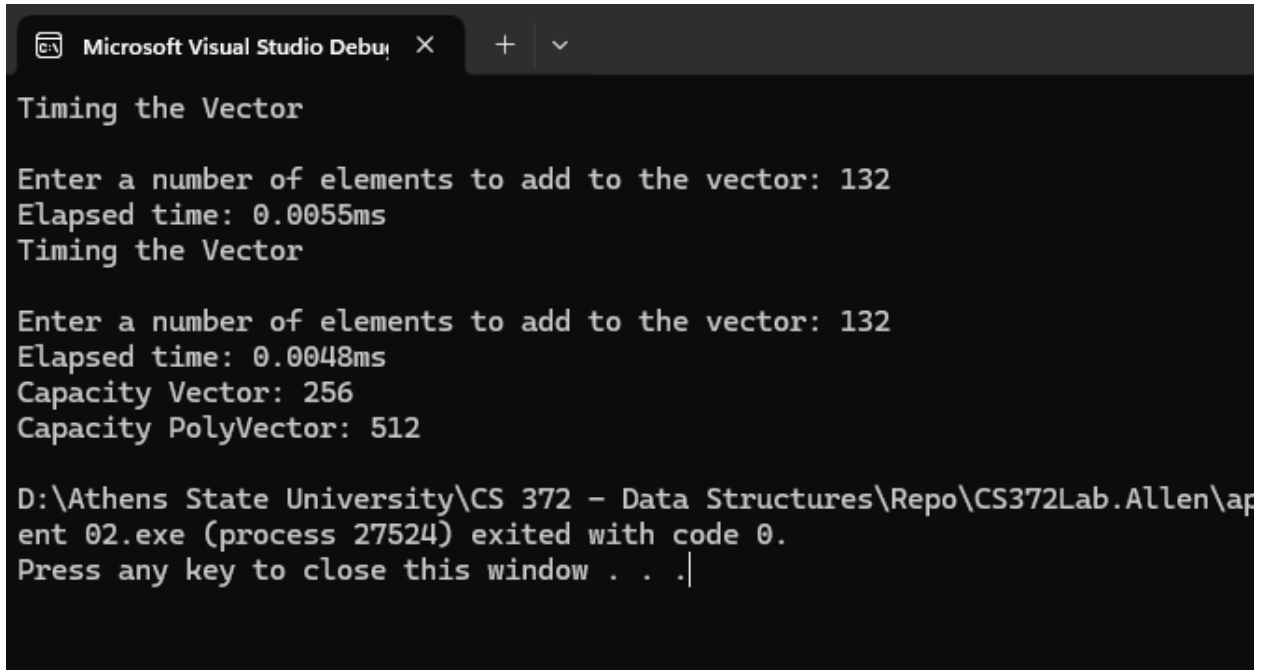Assignment 02 – Vector Timing and Array Class

1. The goal of this project is to time the process of adding a number of elements to a Vector and it's derived class PolyVector.
2. Initial results seem confusing, I'm not sure why the results are the way that they are.

Test 1: Adding 132 elements to each vector.

Observation: Adding the elements to the PolyVector seems to be quicker. Is this due to the fact that doubling the capacity only needed to happen one time compared to the several capacity increases in the initial Vector?

Test 2: Adding 1024 elements to each vector.

```
Timing the Vector

Enter a number of elements to add to the vector: 1024
Elapsed time: 0.0163ms
Timing the Vector

Enter a number of elements to add to the vector: 1024
Elapsed time: 0.0177ms
Capacity Vector: 1024
Capacity PolyVector: 2048

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ent 02.exe (process 48148) exited with code 0.
Press any key to close this window . . .|
```

In this result, it appears that this is slightly quicker to do with the original Vector. Is this because the PolyVector has to perform an additional capacity increase?

Test 3: Adding 9,999 elements to each vector.


```
Timing the Vector

Enter a number of elements to add to the vector: 9999
Elapsed time: 0.0905ms
Timing the Vector

Enter a number of elements to add to the vector: 9999
Elapsed time: 0.0978ms
Capacity Vector: 16384
Capacity PolyVector: 32768

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ent 02.exe (process 29828) exited with code 0.
Press any key to close this window . . .|
```

This is quicker to perform on the original Vector, as the PolyVector needs to increase its capacity significantly more than the original Vector.