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Alphabetically

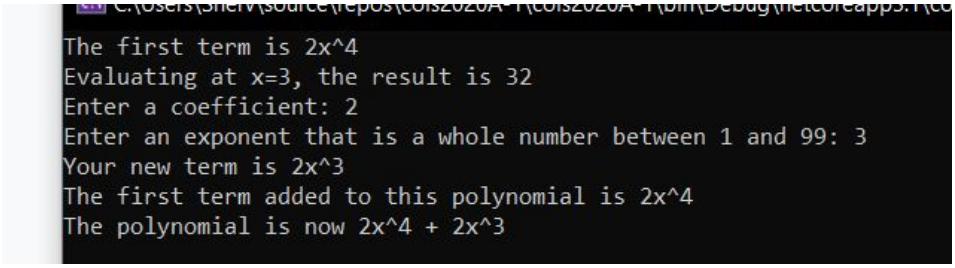
Task 1 testing.

Dr.Patrick said we do not need to test task 1 since task 1 is used for everything and if the other tasks work, so does task 1.

Task 2 testing

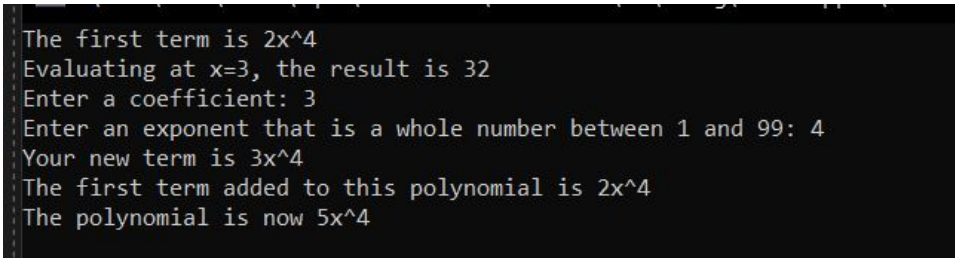
Test 1

Description: Test to see if adding terms together works
Output:



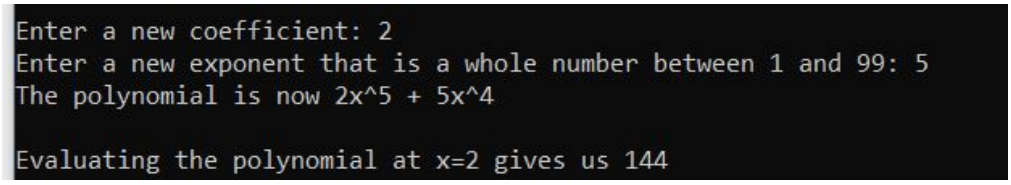
Test 2

Description: Test to see if adding terms with the same exponent works
Output:



Test 3

Description: Test to see if evaluating works
Output:



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Test 4

Description: Test to see if it can handle bigger polynomials
Output:

```
The polynomial is now 2x^4 + 2x^2

Enter a new coefficient: 2
Enter a new exponent that is a whole number between 1 and 99: 3
The polynomial is now 2x^4 + 2x^3 + 2x^2

Evaluating the polynomial at x=2 gives us 56
Here is a second polynomial, 2x^6 + 3x^5 + 3x^4 + 4x^3
Adding these polynomials together gives us: 2x^6 + 3x^5 + 5x^4 + 6x^3 + 2x^2
```

Test 5

Description: Test to see if multiplication works
Output:

```
Enter a new coefficient: 3
Enter a new exponent that is a whole number between 1 and 99: 2
The polynomial is now 2x^4 + 1x^3 + 3x^2

Evaluating the polynomial at x=2 gives us 52
Here is a second polynomial, 2x^3 + 2x^2
Adding these polynomials together gives us: 2x^4 + 3x^3 + 5x^2
```

Test 6

Description: Test to see if print works
Output:

```
Enter a new coefficient: 3
Enter a new exponent that is a whole number between 1 and 99: 2
The polynomial is now 2x^4 + 1x^3 + 3x^2

Evaluating the polynomial at x=2 gives us 52
Here is a second polynomial, 2x^3 + 2x^2
Adding these polynomials together gives us: 2x^4 + 3x^3 + 5x^2

Multiplying the first two polynomials together gives us: 4x^7 + 10x^6 + 16x^5 + 10x^4

This is printing the multiplication again to demonstrate printing
4x^7 + 10x^6 + 16x^5 + 10x^4
```

Test 7

Description: Test to see what will happen with an exponent less than 0

Output:

```
Exponent is not in-between 0 and 99
```

Test 8

Description: test to see if an exponent of 0 works

Output:

```
The first term is 2x^4
Evaluating at x=3, the result is 32
Enter a coefficient: 2
Enter an exponent that is a whole number between 1 and 99: 0
Your new term is 2x^0
The first term added to this polynomial is 2x^4
The polynomial is now 2x^4 + 2x^0
```

Test 9

Description: Test to see if an exponent greater than 99 will work

Output:

```
Exponent is not in-between 0 and 99
```

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Task 3 testing

Test 1

Description: Test to see if adding terms together works, including if some terms have the same exponent

Output:

```
a: 3x^3 + 2x^2 + 1x^1
b: 11x^6 + 3.5x^3 + 2x^1
a + b = c
[3x^3 + 2x^2 + 1x^1] + [11x^6 + 3.5x^3 + 2x^1] = [11x^6 + 6.5x^3 + 2x^2 + 3x^1]
c: 11x^6 + 6.5x^3 + 2x^2 + 3x^1
```

Test 2

D

Test 3

Description: Test to see if evaluating works, with whole and decimal numbers

Output:

```
a: 3x^3 + 2x^2 + 1x^1
b: 11x^6 + 3.5x^3 + 2x^1
-----------Evaluate-----------
a(2) = 34
b(3.679) = 27457.059779804742
```

Test 4

Description: Test to see if it can handle bigger polynomials

Output:

```
a: 5x^17 + 11x^6 + 3x^3 + 2x^2 + 1x^1
```

Test 5

Description: Test to see if multiplication works

Output:

```
------------------Polynomial multiplication-------------
a: 5x^17 + 11x^6 + 3x^3 + 2x^2 + 1x^1
b: 11x^6 + 3.5x^3 + 2x^1
[5x^17 + 11x^6 + 3x^3 + 2x^2 + 1x^1] * [11x^6 + 3.5x^3 + 2x^1] = [5x^17 + 22x^6 + 6.5x^3 + 2x^2 + 3x^1]
d: 10x^19 + 5x^18 + 4x^3 + 2x^2
```

Test 6

Description: Test to see if print works

Output:

```
a: 5x^17 + 11x^6 + 3x^3 + 2x^2 + 1x^1
```

Test 7

Description: Test to see what will happen with an exponent less than 0

Output:

```
Exponent is not in-between 0 and 99
```

Test 8

Description: test to see if an exponent of 0 works

Output:

```
a: 5x^17 + 11x^6 + 3x^3 + 2x^2 + 1x^0
```

Test 9

Description: Test to see if an exponent greater than 99 will work

Output:

```
Exponent is not in-between 0 and 99
```

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Task 4 testing

Description: does it print the polynomials correctly

Output:

```
The Polynomials in S are:
1: 3x^3 + 2x^2
2: 3x^3 + 2x^2 + 1x^1
```

Description: Testing adding Polynomials to S

Output:

the first “The Polynomials in S are:” shows that originally there are no Polynomials in s, then the second one is when two polynomials have been added.

```
The Polynomials in S are:
The Polynomials in S are:
0: 3x^3 + 2x^2
1: 3x^3 + 2x^2 + 1x^1
```

Description: make sure that the retrieve function works properly

Output:

```
The Polynomials in S are:
0: 3x^3 + 2x^2
1: 3x^3 + 2x^2 + 1x^1

retrieve polynomial 0 from S and store it in c
Print C
3x^3 + 2x^2
```

Description: make sure the delete function works properly

Output:

```
The Polynomials in S are:
0: 3x^3 + 2x^2
1: 3x^3 + 2x^2 + 1x^1
Delete polynomial at index 0
The Polynomials in S are:
0: 3x^3 + 2x^2 + 1x^1
```

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Description: make sure the size function works properly
Output:

```
The Polynomials in S are:
0: 3x^3 + 2x^2
1: 3x^3 + 2x^2 + 1x^1
The number of polynomials in S is:
2
```

Task 5 testing

Test1.

Description: Test to see if you can add one term polynomials into the list
Output:

```
Welcome to the Polynomial program, please read all the options before entering an input
Here is the list of polynomials
Press 1 if you would like to insert a polynomial into the list printed above
Press 2 if you would like to add two polynomials together and insert them into the list
Press 3 if you would like to multiply two polynomials together and insert it into the list
Press 4 if you would like to delete any polynomials from the list above
Press 5 if you would like to evaluate a polynomial from the list, provided that you enter x
Press 6 if you would like to close this console
1
How many terms do you want to add to?
1
Please enter the coefficient
1
Please enther the exponent
1
Welcome to the Polynomial program, please read all the options before entering an input
Here is the list of polynomials
1x^1
Press 1 if you would like to insert a polynomial into the list printed above
Press 2 if you would like to add two polynomials together and insert them into the list
Press 3 if you would like to multiply two polynomials together and insert it into the list
Press 4 if you would like to delete any polynomials from the list above
Press 5 if you would like to evaluate a polynomial from the list, provided that you enter x
Press 6 if you would like to close this console
```

Test 2

Description: test to see if you can add two term polynomial into the list
Output:

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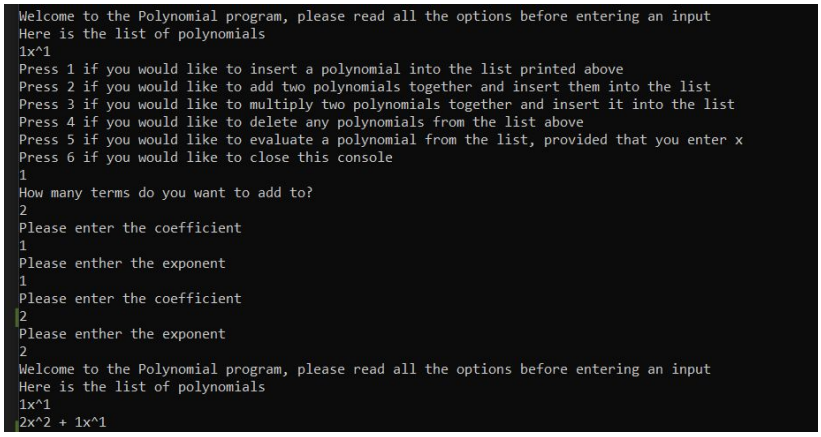
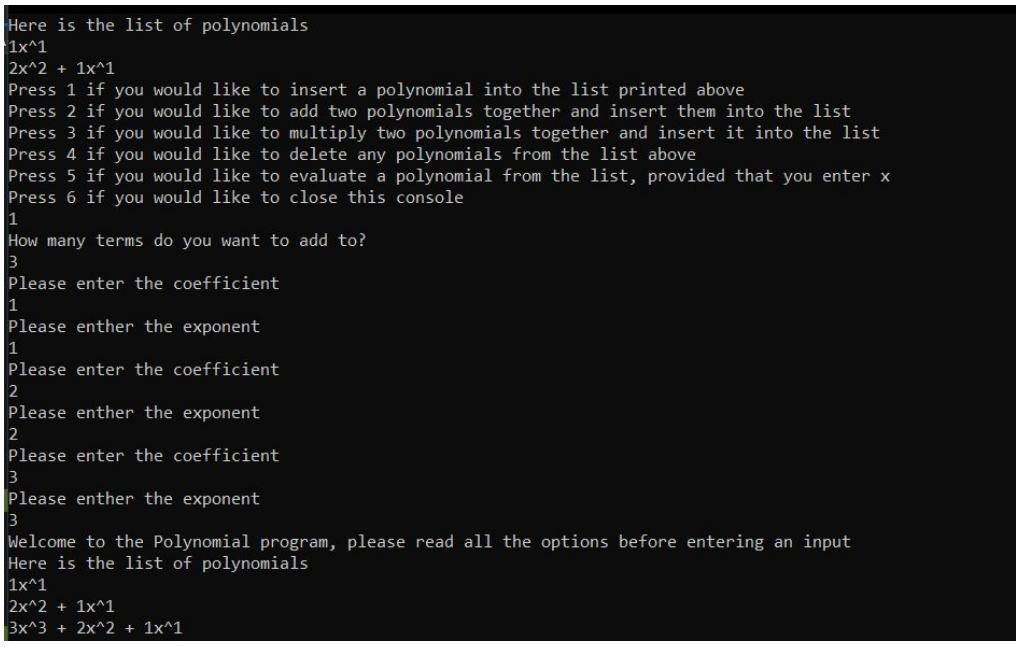


Test 3

Description: Test to see if you can more than two term polynomials into the list

Output:



Test 4

Description: can you add a term with an exponent above 99

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Output:

```
Welcome to the Polynomial program, please read all the options before entering an input
Here is the list of polynomials
Press 1 if you would like to insert a polynomial into the list printed above
Press 2 if you would like to add two polynomials together and insert them into the list
Press 3 if you would like to multiply two polynomials together and insert it into the list
Press 4 if you would like to delete any polynomials from the list above
Press 5 if you would like to evaluate a polynomial from the list, provided that you enter x
Press 6 if you would like to close this console
1
How many terms do you want to add to?
1
Please enter the coefficient
1
Please enther the exponent
100
Unhandled exception. System.ArgumentException: Exponent is not in-between 0 and 99
```

Test 5

Description: Test to see if you can add a term with an exponent below 0

Output:

```
Welcome to the Polynomial program, please read all the options before entering an input
Here is the list of polynomials
Press 1 if you would like to insert a polynomial into the list printed above
Press 2 if you would like to add two polynomials together and insert them into the list
Press 3 if you would like to multiply two polynomials together and insert it into the list
Press 4 if you would like to delete any polynomials from the list above
Press 5 if you would like to evaluate a polynomial from the list, provided that you enter x
Press 6 if you would like to close this console
1
How many terms do you want to add to?
1
Please enter the coefficient
1
Please enther the exponent
-1
Unhandled exception. System.ArgumentException: Exponent is not in-between 0 and 99
```

Test 6

Description: test to see if you can multiply two polynomials together

Output:

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Alphabetically

```
Press 1 if you would like to insert a polynomial into the list printed above
Press 2 if you would like to add two polynomials together and insert them into the list
Press 3 if you would like to multiply two polynomials together and insert it into the list
Press 4 if you would like to delete any polynomials from the list above
Press 5 if you would like to evaluate a polynomial from the list, provided that you enter x
Press 6 if you would like to close this console
3
Here is the list of Polynomials
1x^2
2x^3
Please enter the index of the first polynomial you would like to use
1
Please enter the index of the second polynomial you would like to use
2
Your new polynomial is:
2x^5

Welcome to the Polynomial program, please read all the options before entering an input
Here is the list of polynomials
1x^2
2x^3
2x^5
```

Test 7

Description: Test to see if you can evaluate a polynomial

Output:

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```
Welcome to the Polynomial program, please read all the options before entering an input
Here is the list of polynomials
1x^2
2x^3
2x^5
Press 1 if you would like to insert a polynomial into the list printed above
Press 2 if you would like to add two polynomials together and insert them into the list
Press 3 if you would like to multiply two polynomials together and insert it into the list
Press 4 if you would like to delete any polynomials from the list above
Press 5 if you would like to evaluate a polynomial from the list, provided that you enter x
Press 6 if you would like to close this console
5
Please enter the index of the polynomial you would like to evaluate
2
Please enter the x value you would like to use
2
Your answer is:
16
```

Test 8

Description: test to see if you can delete a polynomial from the term
Output:

```
Here is the list of polynomials
1x^2
2x^3
2x^5
Press 1 if you would like to insert a polynomial into the list printed above
Press 2 if you would like to add two polynomials together and insert them into the list
Press 3 if you would like to multiply two polynomials together and insert it into the list
Press 4 if you would like to delete any polynomials from the list above
Press 5 if you would like to evaluate a polynomial from the list, provided that you enter x
Press 6 if you would like to close this console
4
Here is the list of Polynomials
1x^2
2x^3
2x^5
Please enter the index of the polynomial you would like to delete
1
Deleted

Welcome to the Polynomial program, please read all the options before entering an input
Here is the list of polynomials
2x^3
2x^5
```

Test 9

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Alphabetically

Description: Test to see if you can close the console
Output:

```
Welcome to the Polynomial program, please read all the options before entering an input
Here is the list of polynomials
2x^3
2x^5
Press 1 if you would like to insert a polynomial into the list printed above
Press 2 if you would like to add two polynomials together and insert them into the list
Press 3 if you would like to multiply two polynomials together and insert it into the list
Press 4 if you would like to delete any polynomials from the list above
Press 5 if you would like to evaluate a polynomial from the list, provided that you enter x
Press 6 if you would like to close this console
6

C:\Users\Sherv\source\repos\cois2020A-1\cois2020A-1\bin\Debug\netcoreapp3.1\cois2020A-1.exe (process 18448) exited with
code 0.
```

Test 10

Description: Test to see if you can add polynomials with no polynomials in the list
Output:

```
Welcome to the Polynomial program, please read all the options before entering an input
Here is the list of polynomials
Press 1 if you would like to insert a polynomial into the list printed above
Press 2 if you would like to add two polynomials together and insert them into the list
Press 3 if you would like to multiply two polynomials together and insert it into the list
Press 4 if you would like to delete any polynomials from the list above
Press 5 if you would like to evaluate a polynomial from the list, provided that you enter x
Press 6 if you would like to close this console
2
There are no polynomials in the list
```

Test 11

Description: Test to see if you can multiply polynomials with no polynomials in the list
Output:

```
Welcome to the Polynomial program, please read all the options before entering an input
Here is the list of polynomials
Press 1 if you would like to insert a polynomial into the list printed above
Press 2 if you would like to add two polynomials together and insert them into the list
Press 3 if you would like to multiply two polynomials together and insert it into the list
Press 4 if you would like to delete any polynomials from the list above
Press 5 if you would like to evaluate a polynomial from the list, provided that you enter x
Press 6 if you would like to close this console
4
There are no polynomials in the list
```

Test 12

Description: Test to see if you can delete polynomials with no polynomials in the list

Output:

```
Welcome to the Polynomial program, please read all the options before entering an input
Here is the list of polynomials
Press 1 if you would like to insert a polynomial into the list printed above
Press 2 if you would like to add two polynomials together and insert them into the list
Press 3 if you would like to multiply two polynomials together and insert it into the list
Press 4 if you would like to delete any polynomials from the list above
Press 5 if you would like to evaluate a polynomial from the list, provided that you enter x
Press 6 if you would like to close this console
4
There are no polynomials in the list
```

Test 13

Description: Test to see if you can evaluate polynomials with no polynomials in the list

Output:

```
Welcome to the Polynomial program, please read all the options before entering an input
Here is the list of polynomials
Press 1 if you would like to insert a polynomial into the list printed above
Press 2 if you would like to add two polynomials together and insert them into the list
Press 3 if you would like to multiply two polynomials together and insert it into the list
Press 4 if you would like to delete any polynomials from the list above
Press 5 if you would like to evaluate a polynomial from the list, provided that you enter x
Press 6 if you would like to close this console
5
There are no polynomials in the list
```

Test 14

Description: Test to see if an exponent less than 0 will work

Output:

```
Exponent is not in-between 0 and 99
```

Test 15

Description: Test to see if an exponent greater than 99 will work

Output:

```
Exponent is not in-between 0 and 99
```

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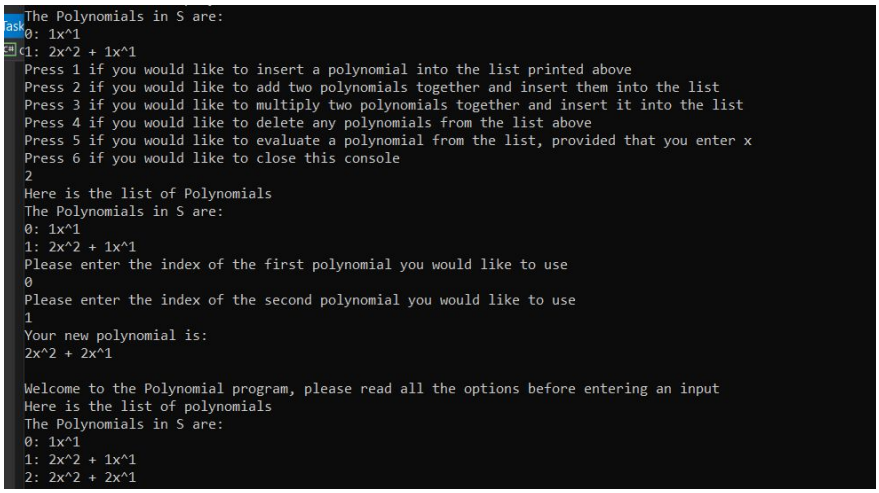
Alphabetically

Test 16

Description: Test to see if addition works

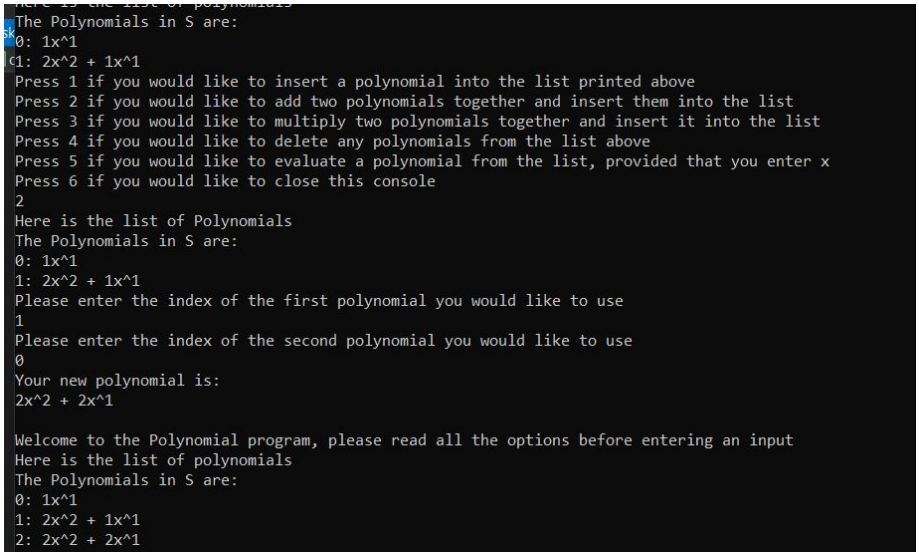
Output:



Test 17

Description: Test to see if you can select polynomials to add backwards

Output:



Test 19

Description: Test to see if you can select polynomials to multiply backwards

Output:

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Alphabetically