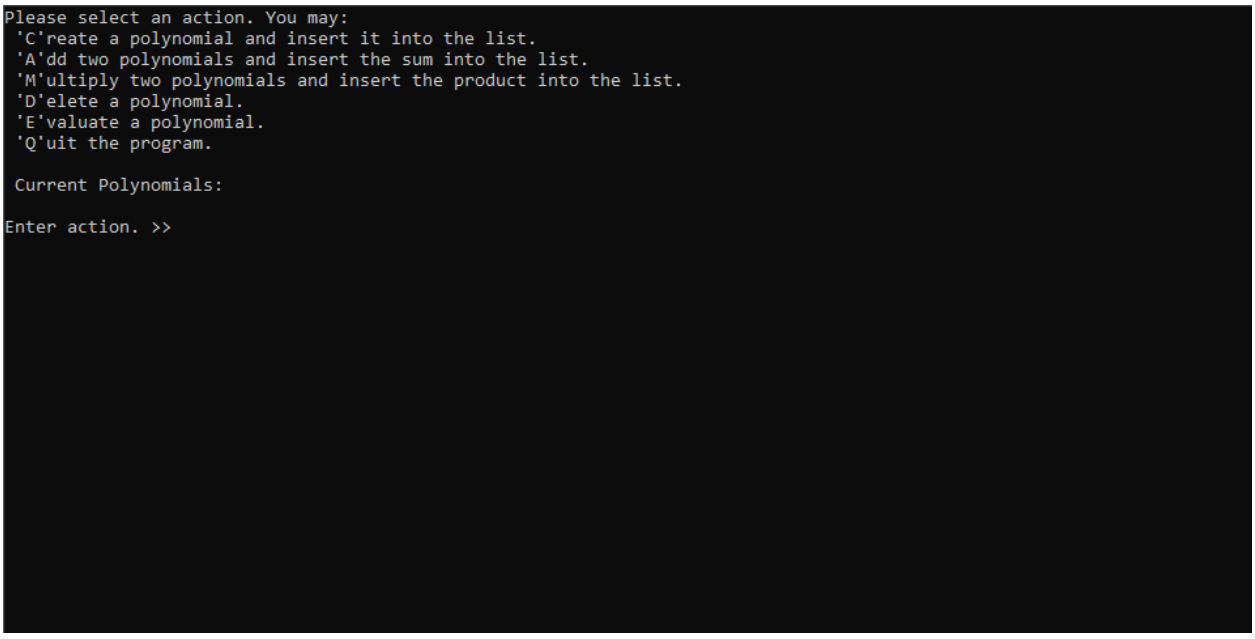
Nicholas Barnes
Konrad Bartlett

Assignment 1

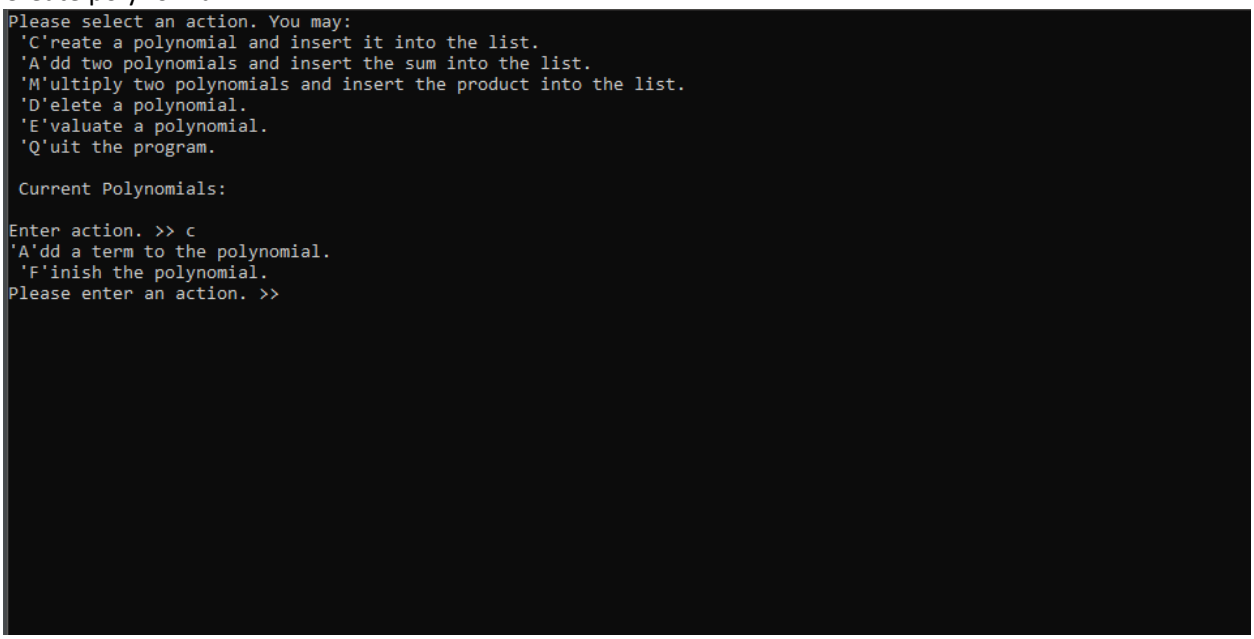
Data that was used was to demonstrate basic and advanced functionality of program as well as document probable errors when program is used. Each program path is tested for to ensure that the program runs properly and without errors.

Program Testing

Main menu



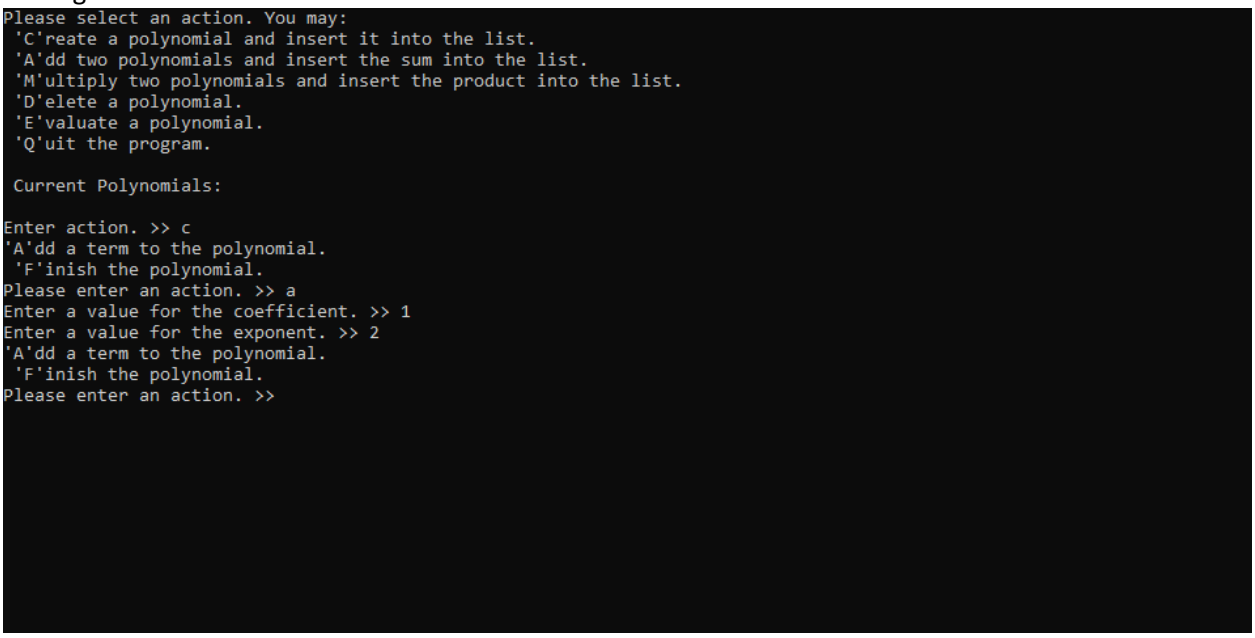
Create polynomial



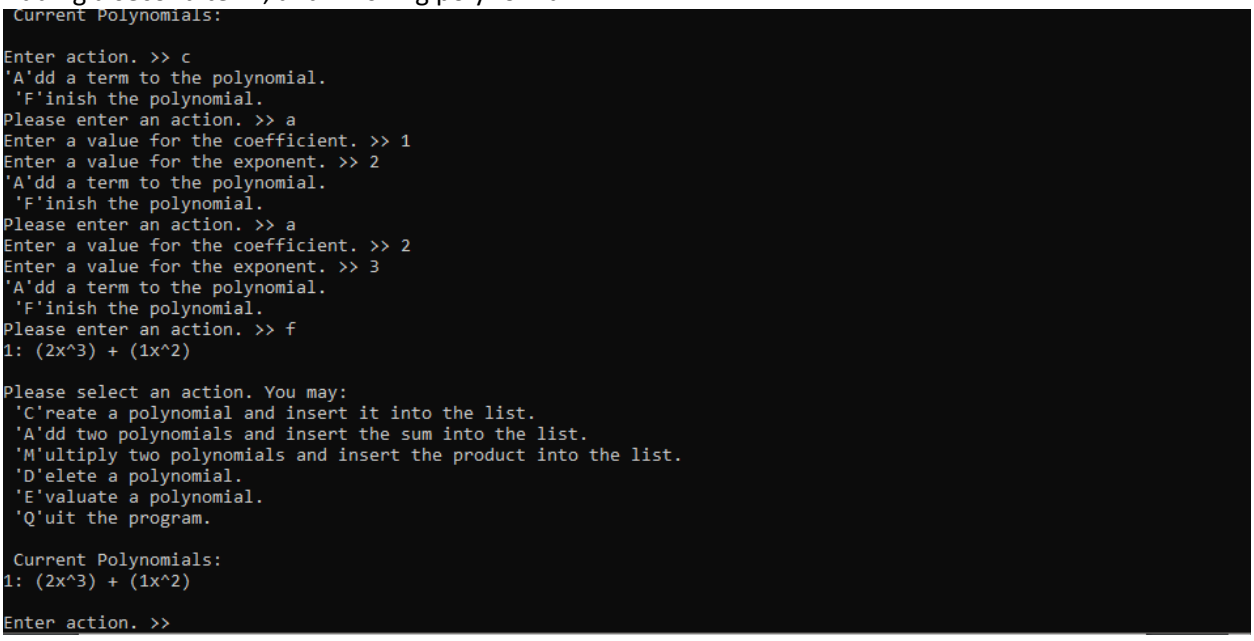
Nicholas Barnes
Konrad Bartlett

Nicholas Barnes
Konrad Bartlett

Adding a first term



Adding a second term, and finishing polynomial



Nicholas Barnes
Konrad Bartlett

Creating extra polynomials, and printing multiple polynomials

```
Enter a value for the coefficient. >> 7
Enter a value for the exponent. >> 8
'A'dd a term to the polynomial.
 'F'inish the polynomial.
Please enter an action. >> a
Enter a value for the coefficient. >> 9
Enter a value for the exponent. >> 1
'A'dd a term to the polynomial.
 'F'inish the polynomial.
Please enter an action. >> f
1: (7x^8) + (5x^6) + (3x^4) + (9x^1)
2: (2x^3) + (2x^2)
3: (2x^3) + (1x^2)
4: (1x^2)

Please select an action. You may:
 'C'reate a polynomial and insert it into the list.
 'A'dd two polynomials and insert the sum into the list.
 'M'ultiply two polynomials and insert the product into the list.
 'D'elete a polynomial.
 'E'valuate a polynomial.
 'Q'uit the program.

 Current Polynomials:
1: (7x^8) + (5x^6) + (3x^4) + (9x^1)
2: (2x^3) + (2x^2)
3: (2x^3) + (1x^2)
4: (1x^2)

Enter action. >>
```

Adding 2 polynomials together

```
Please select an action. You may:
 'C'reate a polynomial and insert it into the list.
 'A'dd two polynomials and insert the sum into the list.
 'M'ultiply two polynomials and insert the product into the list.
 'D'elete a polynomial.
 'E'valuate a polynomial.
 'Q'uit the program.

 Current Polynomials:
1: (3x^4)
2: (1x^2)

Enter action. >> a
Please input the first polynomial's index. >> 1
Please input the second polynomial's index. >> 2

Please select an action. You may:
 'C'reate a polynomial and insert it into the list.
 'A'dd two polynomials and insert the sum into the list.
 'M'ultiply two polynomials and insert the product into the list.
 'D'elete a polynomial.
 'E'valuate a polynomial.
 'Q'uit the program.

 Current Polynomials:
1: (3x^4) + (1x^2)
2: (3x^4)
3: (1x^2)

Enter action. >>
```

Nicholas Barnes
Konrad Bartlett

Multiply 2 polynomials

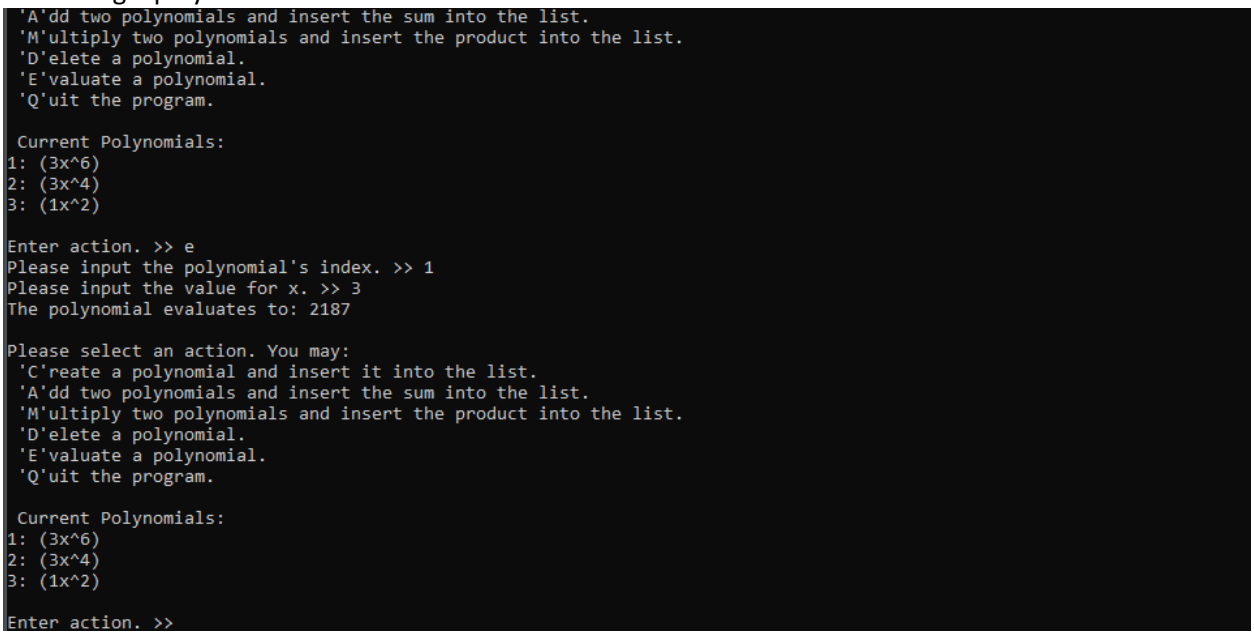
```
 'A'dd two polynomials and insert the sum into the list.
 'M'ultiply two polynomials and insert the product into the list.
 'D'elete a polynomial.
 'E'valuate a polynomial.
 'Q'uit the program.

 Current Polynomials:
1: (3x^4) + (1x^2)
2: (3x^4)
3: (1x^2)

Enter action. >> m
Please input the first polynomial's index. >> 2
Please input the second polynomial's index. >> 3

Please select an action. You may:
 'C'reate a polynomial and insert it into the list.
 'A'dd two polynomials and insert the sum into the list.
 'M'ultiply two polynomials and insert the product into the list.
 'D'elete a polynomial.
 'E'valuate a polynomial.
 'Q'uit the program.

 Current Polynomials:
1: (3x^6)
2: (3x^4) + (1x^2)
3: (3x^4)
4: (1x^2)

Enter action. >>
```

Deleting a polynomial

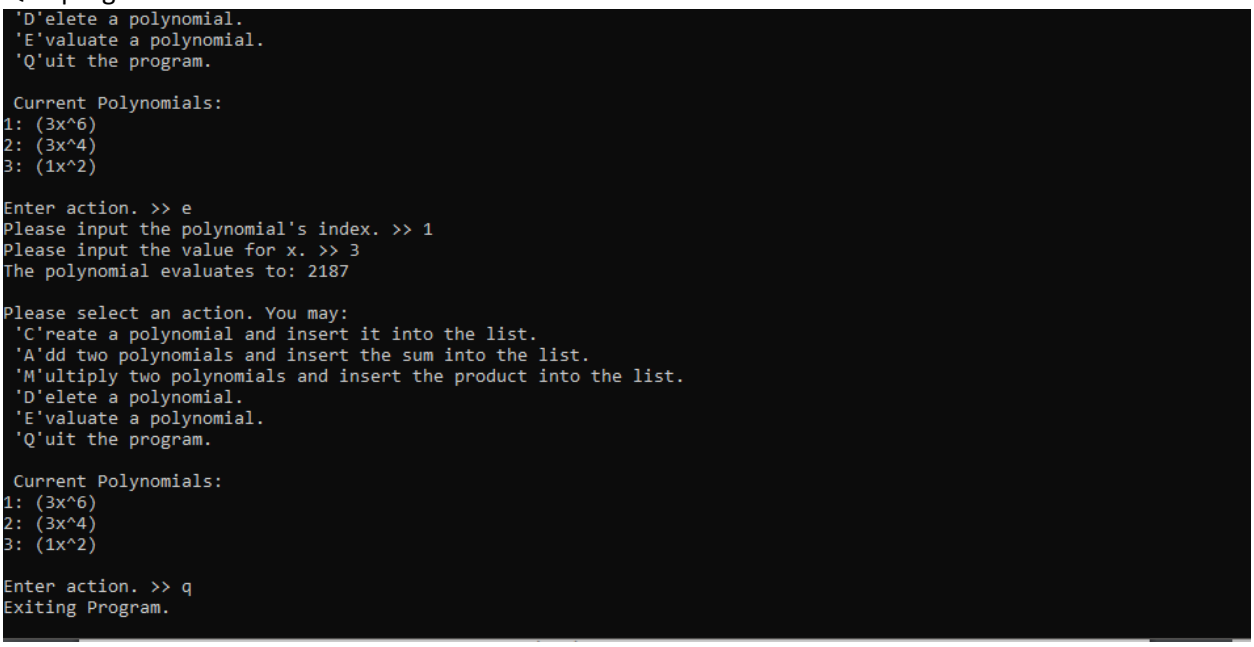
```
 'C'reate a polynomial and insert it into the list.
 'A'dd two polynomials and insert the sum into the list.
 'M'ultiply two polynomials and insert the product into the list.
 'D'elete a polynomial.
 'E'valuate a polynomial.
 'Q'uit the program.

 Current Polynomials:
1: (3x^6)
2: (3x^4) + (1x^2)
3: (3x^4)
4: (1x^2)

Enter action. >> d
Please input the index of the polynomial which you would like to delete. >> 2

Please select an action. You may:
 'C'reate a polynomial and insert it into the list.
 'A'dd two polynomials and insert the sum into the list.
 'M'ultiply two polynomials and insert the product into the list.
 'D'elete a polynomial.
 'E'valuate a polynomial.
 'Q'uit the program.

 Current Polynomials:
1: (3x^6)
2: (3x^4)
3: (1x^2)

Enter action. >>
```

Nicholas Barnes
Konrad Bartlett

Evaluating a polynomial



Quit program



Nicholas Barnes
Konrad Bartlett

Error Handling

Main menu, invalid character

```
Please select an action. You may:
 'C'reate a polynomial and insert it into the list.
 'A'dd two polynomials and insert the sum into the list.
 'M'ultiply two polynomials and insert the product into the list.
 'D'elete a polynomial.
 'E'valuate a polynomial.
 'Q'uit the program.

 Current Polynomials:

Enter action. >> 1
Error. Please input a valid command.

Please select an action. You may:
 'C'reate a polynomial and insert it into the list.
 'A'dd two polynomials and insert the sum into the list.
 'M'ultiply two polynomials and insert the product into the list.
 'D'elete a polynomial.
 'E'valuate a polynomial.
 'Q'uit the program.

 Current Polynomials:

Enter action. >>
```

Create polynomial, invalid character

```
 'Q'uit the program.

 Current Polynomials:

Enter action. >> 1
Error. Please input a valid command.

Please select an action. You may:
 'C'reate a polynomial and insert it into the list.
 'A'dd two polynomials and insert the sum into the list.
 'M'ultiply two polynomials and insert the product into the list.
 'D'elete a polynomial.
 'E'valuate a polynomial.
 'Q'uit the program.

 Current Polynomials:

Enter action. >> c
'A'dd a term to the polynomial.
 'F'inish the polynomial.
Please enter an action. >> 1
Error, please input a valid command.

'A'dd a term to the polynomial.
 'F'inish the polynomial.
Please enter an action. >>
```

Nicholas Barnes
Konrad Bartlett

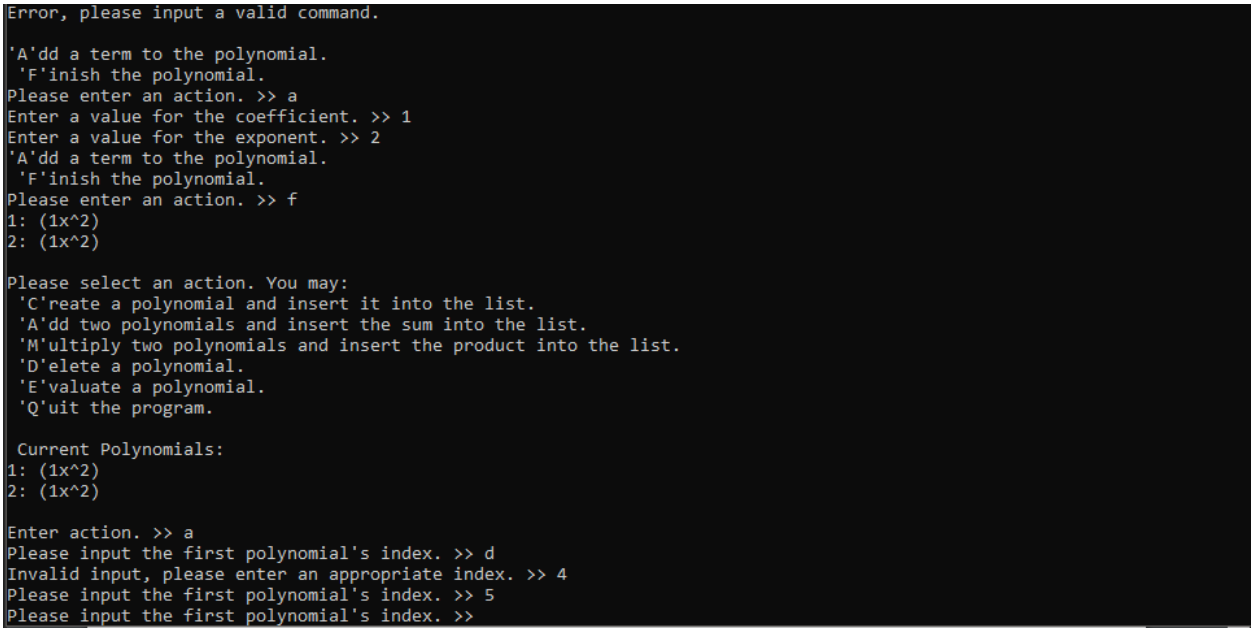
Create term, invalid character

```
 'Q'uit the program.

 Current Polynomials:

Enter action. >> 1
Error. Please input a valid command.

Please select an action. You may:
 'C'reate a polynomial and insert it into the list.
 'A'dd two polynomials and insert the sum into the list.
 'M'ultiply two polynomials and insert the product into the list.
 'D'elete a polynomial.
 'E'valuate a polynomial.
 'Q'uit the program.

 Current Polynomials:

Enter action. >> c
'A'dd a term to the polynomial.
 'F'inish the polynomial.
Please enter an action. >> 1
Error, please input a valid command.

'A'dd a term to the polynomial.
 'F'inish the polynomial.
Please enter an action. >> a
Enter a value for the coefficient. >> d
Input invalid. Please enter a double. >>
```

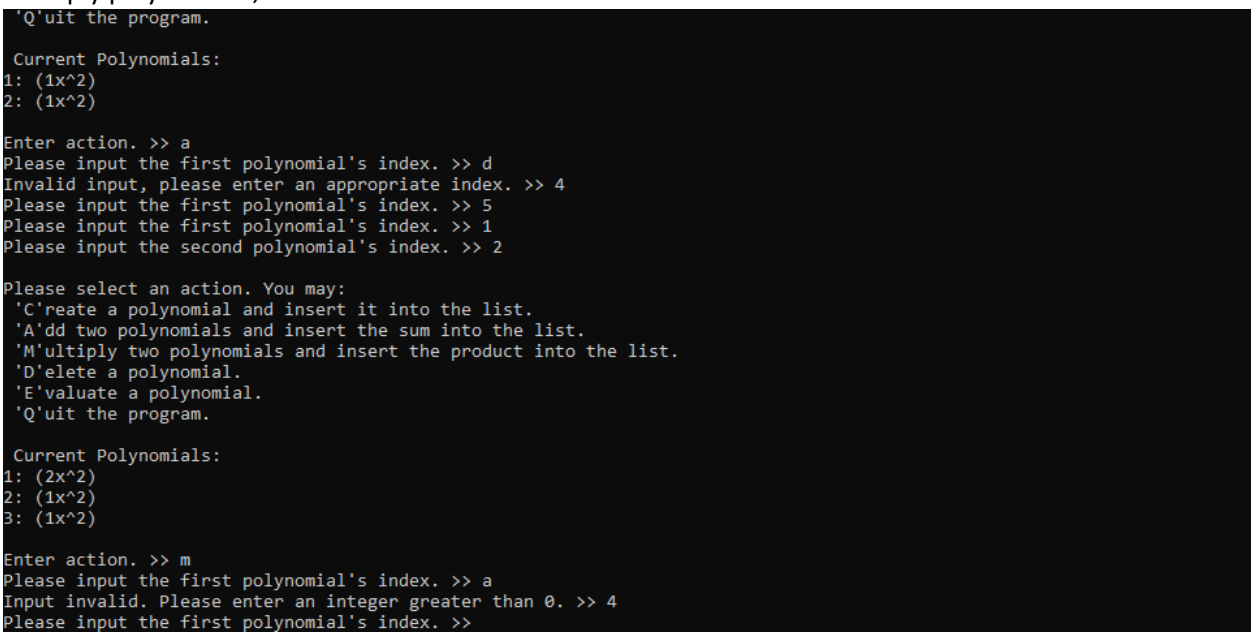
```
 'Q'uit the program.

 Current Polynomials:

Enter action. >> 1
Error. Please input a valid command.

Please select an action. You may:
 'C'reate a polynomial and insert it into the list.
 'A'dd two polynomials and insert the sum into the list.
 'M'ultiply two polynomials and insert the product into the list.
 'D'elete a polynomial.
 'E'valuate a polynomial.
 'Q'uit the program.

 Current Polynomials:

Enter action. >> c
'A'dd a term to the polynomial.
 'F'inish the polynomial.
Please enter an action. >> 1
Error, please input a valid command.

'A'dd a term to the polynomial.
 'F'inish the polynomial.
Please enter an action. >> a
Enter a value for the coefficient. >> d
Input invalid. Please enter a double. >> 1
Enter a value for the exponent. >> d
Input invalid. Please enter a number between 0 and 255. >>
```

Nicholas Barnes
Konrad Bartlett

Adding polynomials, invalid character and out of bounds index



Multiply polynomials, invalid character and out of bounds index



Nicholas Barnes
Konrad Bartlett

Delete polynomial, invalid character and out of bounds index

```
 Current Polynomials:
1: (2x^2)
2: (1x^2)
3: (1x^2)

Enter action. >> m
Please input the first polynomial's index. >> a
Input invalid. Please enter an integer greater than 0. >> 4
Please input the first polynomial's index. >> 1
Please input the second polynomial's index. >> 2

Please select an action. You may:
 'C'reate a polynomial and insert it into the list.
 'A'dd two polynomials and insert the sum into the list.
 'M'ultiply two polynomials and insert the product into the list.
 'D'elete a polynomial.
 'E'valuate a polynomial.
 'Q'uit the program.

 Current Polynomials:
1: (2x^4)
2: (2x^2)
3: (1x^2)
4: (1x^2)

Enter action. >> d
Please input the index of the polynomial which you would like to delete. >> a
Invalid input. Please enter an integer greater than 0. >> 6
Please input the index of the polynomial which you would like to delete. >>
```

Evaluate polynomial, invalid character

```
 'Q'uit the program.

 Current Polynomials:
1: (2x^4)
2: (2x^2)
3: (1x^2)
4: (1x^2)

Enter action. >> d
Please input the index of the polynomial which you would like to delete. >> a
Invalid input. Please enter an integer greater than 0. >> 6
Please input the index of the polynomial which you would like to delete. >> 0.2
Invalid input. Please enter an integer greater than 0. >> 1

Please select an action. You may:
 'C'reate a polynomial and insert it into the list.
 'A'dd two polynomials and insert the sum into the list.
 'M'ultiply two polynomials and insert the product into the list.
 'D'elete a polynomial.
 'E'valuate a polynomial.
 'Q'uit the program.

 Current Polynomials:
1: (2x^2)
2: (1x^2)
3: (1x^2)

Enter action. >> e
Please input the polynomial's index. >> t
Input invalid. Please enter an integer greater than 0. >>
```