Data for non-linear (polynomial model):

x	1	3	4	5	6	7	8	9	10
y	2	7	8	10	11	11	10	9	8

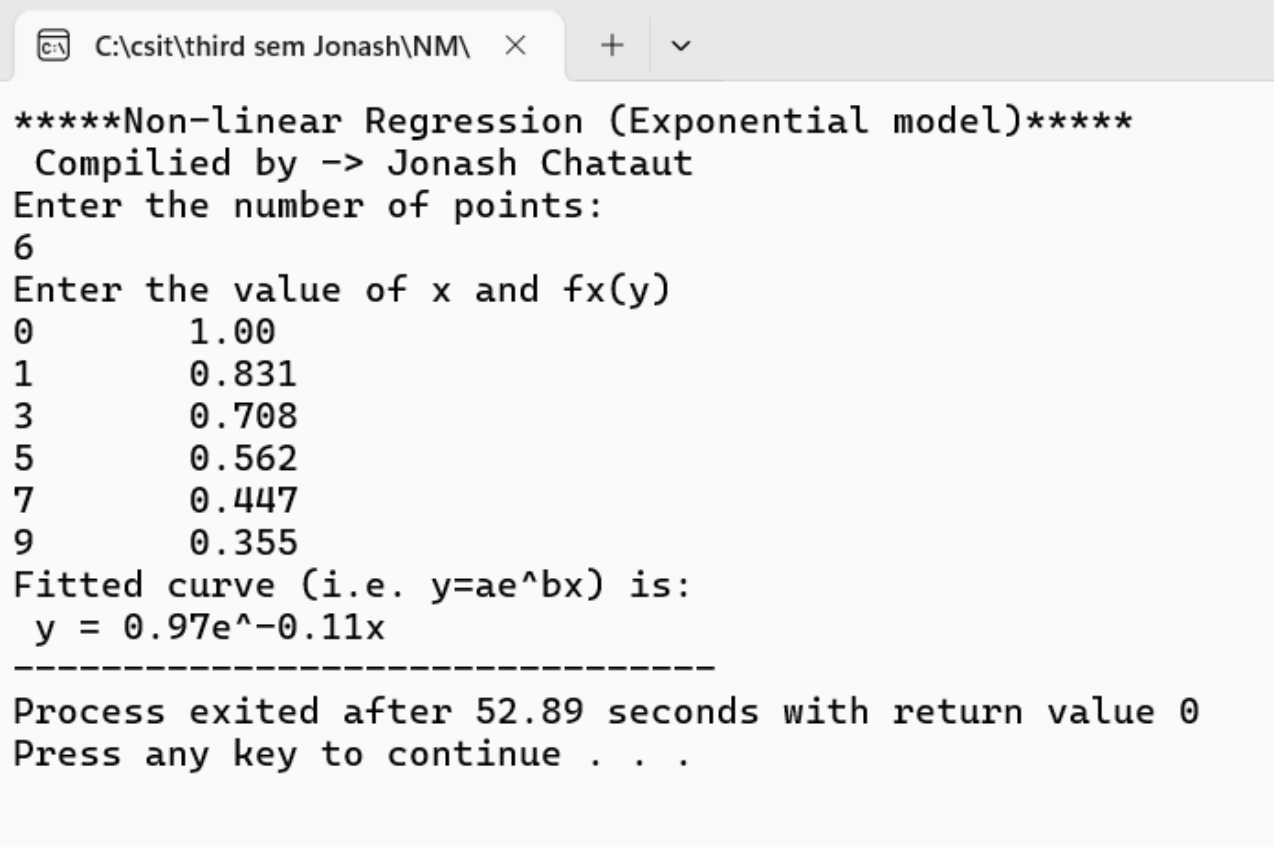
Output:

```
C:\csit\third sem Jonash\NM\
*****Non-linear Regression (Polynomial model)*****
 Compilied by -> Jonash Chataut
Enter no. of data points:
9
Enter the degree of polynomial to be fitted
2
Enter the data points x and fx(y)
1       2
3       7
4       8
5       10
6       11
7       11
8       10
9       9
10      8
The polynomial of regression is :
 y = -1.46 + 3.61 x + -0.27 x^2
--------------------------------
Process exited after 30.3 seconds with return value 0
Press any key to continue . . .
```

Data for non-linear (exponential model):

x	0	1	3	5	7	9
y	1	0.891	0.708	0.562	0.447	0.355

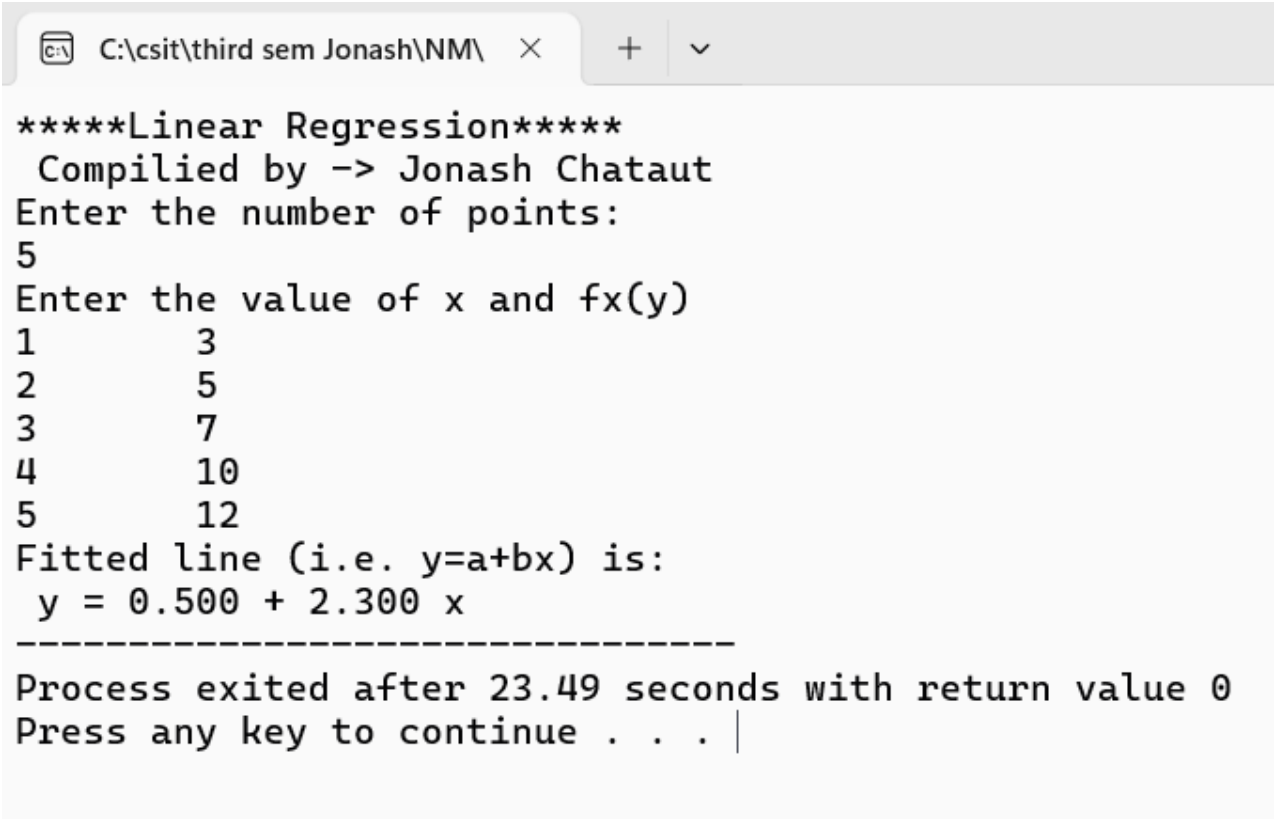
Output:



Data for Linear Regresson:

x	1	2	3	4	5
y	3	5	7	10	12

Output:



Data for Newton's forward difference interpolation:

x	1	1.3	1.6	1.9	2.2
F(x)	0.765198	0.620086	0.455402	0.281819	0.110362

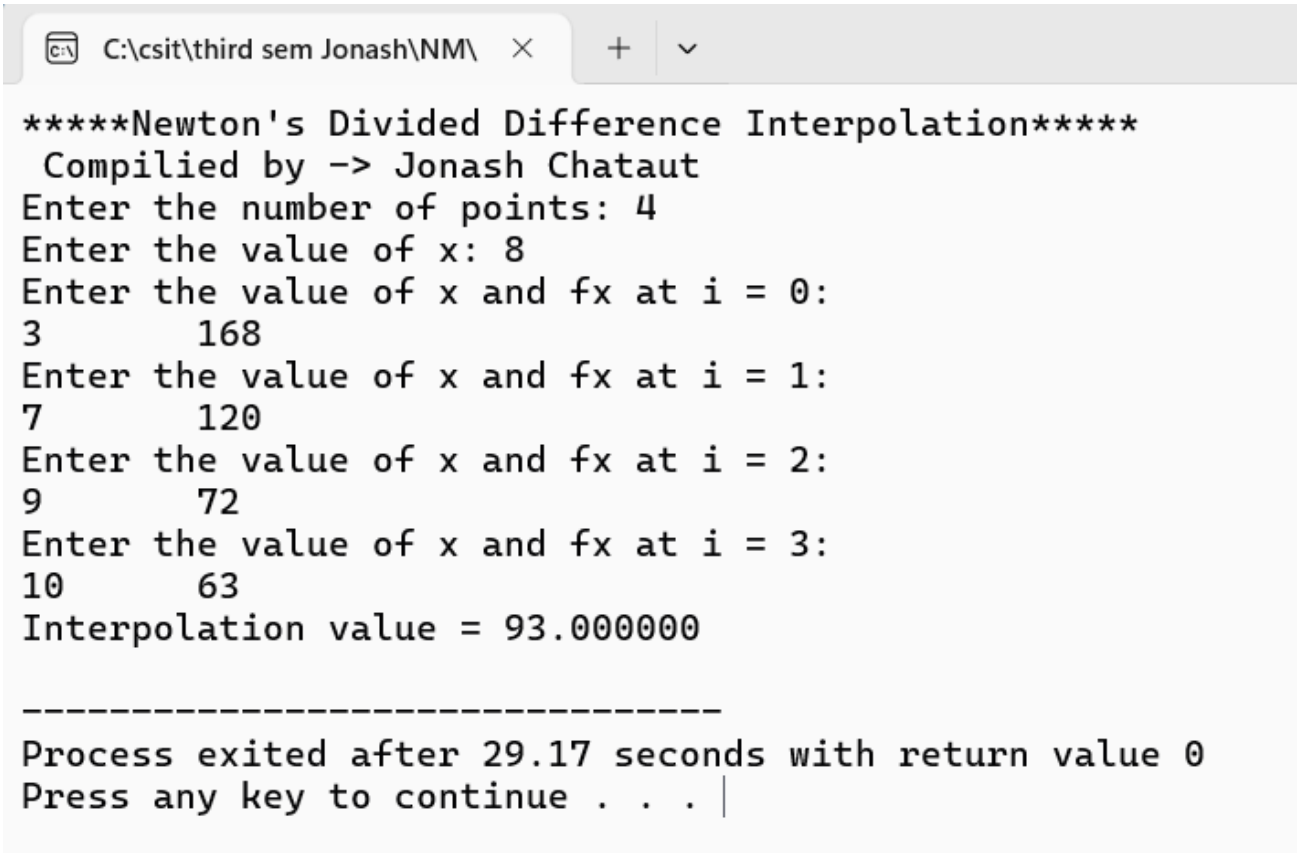
Output:

```
C:\csit\third sem Jonash\NM\
*****Newton's Forward Difference Interpolation*****
 Compilied by -> Jonash Chataut
Enter the number of points:
5
Enter the value at which interpolated value is needed:
1.1
Enter the value of x and fx at i = 0:
1.0     0.7651977
Enter the value of x and fx at i = 1:
1.3     0.6200860
Enter the value of x and fx at i = 2:
1.6     0.4554022
Enter the value of x and fx at i = 3:
1.9     0.2818186
Enter the value of x and fx at i = 4:
2.2     0.1103623
Interpolation value = 0.719646
--------------------------------
Process exited after 79.34 seconds with return value 0
Press any key to continue . . .
```

Data for Newton's divided difference interpolation:

x	3	7	9	10
F(x)	168	120	72	63

Output:



Data for Lagrange interpolation:

x	0	10	15	20	22.5	30
F(x)	0	227.04	362.78	517.35	602.97	901.67

Output: