Assignment 6 LEAST-SQUARES REGRESSION

1. LINEAR REGRESSION

x	10	15	20	30	40	50	60	70	80
f(x)	5	9	15	18	22	30	35	38	43

From the data provided above, employ LINEAR REGRESSION to formulate $f(x) = a_0 + a_1x_1$ and predict the value of f(65)

2. POLYNOMIAL REGRESSION

x	10	15	20	30	40	50	60	70	80
f(x)	5	9	15	18	22	30	35	38	43

Use POLYNOMIAL REGRESSION of order m = 2 to formulate the equation in a form of $f(x) = a_0 + a_1x + a_2x^2$ from the given data

3. MULTIPLE LINEAR REGRESSION

x_1	x_2	x_3	Y
1	0	1	4
0	1	3	-5
2	4	1	-6
3	2	2	0
4	1	5	-1
2	3	3	-7
1	6	4	-20

Use MULTIPLE LINEAR REGRESSION to derive $f(x) = a_0 + a_1x_1 + a_2x_2 + a_2x_3$