PRACTICAL NUMBER 7

**Measure of Skewness and Kurtosis**

**FORMULA USED:**

1. **MOMENTS:**

**=**

For central moments A=mean.

1. **SKEWNESS:**

**=**

**=**

1. **KURTOSIS:**

**=**

**=**

**Question 1:** Calculate the first four central moments of the following data:

|  |  |
| --- | --- |
| X | F |
| 0 | 1 |
| 1 | 8 |
| 2 | 28 |
| 3 | 56 |
| 4 | 70 |
| 5 | 56 |
| 6 | 28 |
| 7 | 8 |
| 8 | 1 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| X | F | XIFI | X-M | FI(XI-M) | FI(XI-M)^3 | FI(XI-M)^2 | FI(XI-M)^4 |
| 0 | 1 | 0 | -4 | -4 | -64 | 16 | 256 |
| 1 | 8 | 8 | -3 | -24 | -216 | 72 | 648 |
| 2 | 28 | 56 | -2 | -56 | -224 | 112 | 448 |
| 3 | 56 | 168 | -1 | -56 | -56 | 56 | 56 |
| 4 | 70 | 280 | 0 | 0 | 0 | 0 | 0 |
| 5 | 56 | 280 | 1 | 56 | 56 | 56 | 56 |
| 6 | 28 | 168 | 2 | 56 | 224 | 112 | 448 |
| 7 | 8 | 56 | 3 | 24 | 216 | 72 | 648 |
| 8 | 1 | 8 | 4 | 4 | 64 | 16 | 256 |
|  | 256 | 1024 |  | 0 | 0 | 512 | 2816 |

**MEAN**=4

**MOMENT 1**= 0

**MOMENT 2**= 2

**MOMENT 3**= 0

**MOMENT 4=** 11

**SKEWNESS=**0

**KURTOSIS**=2.75

***Interpretation:***

The data is symmetrical about the mean also it is a platy curve.