**Summarization of Mean, Median, Mode**

**Dataset Summary**

* **Sample Size:** 108 records
* **SSC % (10th grade):**
  + Mean = 67.30 | Median = 67 | Mode = 62
* **HSC % (12th grade):**
  + Mean = 66.33 | Median = 65 | Mode = 63
* **Degree %:**
  + Mean = 66.37 | Median = 66 | Mode = 65
* **E-test %:**
  + Mean = 72.10 | Median = 71 | Mode = 60
* **MBA %:**
  + Mean = 62.28 | Median = 62 | Mode = 56.7
* **Salary (in ₹):**
  + Mean = 288,655 | Median = 265,000 | Mode = 300,000

**Insights**

1. **Academic Scores:** Most academic percentages (SSC, HSC, Degree) cluster in the mid-60s range.
2. **E-test Performance:** Higher average (~72%) compared to other academic metrics.
3. **MBA Scores:** Slightly lower average (~62%).
4. **Salary Distribution:**
   * Median salary (₹265K) < Mean salary (₹288K).
   * This suggests a **right-skewed distribution** (a few higher salaries raise the average).

**Summarization of Percentile**

**Dataset Quartile & Max Summary**

* **Q1 (25th percentile):**
  + SSC = 54.5, HSC = 60.6, Degree = 60.9, E-test = 61, MBA = 60, Salary = ₹240,000
* **Q2 (Median / 50th percentile):**
  + SSC = 67, HSC = 65, Degree = 66, E-test = 71, MBA = 62, Salary = ₹265,000
* **Q3 (75th percentile):**
  + SSC = 75.7, HSC = 73, Degree = 72, E-test = 83.5, MBA = 66.25, Salary = ₹300,000
* **Q4 (Maximum):**
  + SSC = 89.4, HSC = 97.7, Degree = 91, E-test = 98, MBA = 77.89, Salary = ₹940,000

**📌 Insights**

1. **Score Distribution:**
   * SSC, HSC, and Degree scores grow steadily from ~55 (Q1) to ~75 (Q3), with top values nearing 90+.
   * E-test has a strong upward spread, reaching as high as 98.
   * MBA scores are relatively lower and less spread out (60 → ~78).
2. **Salary Distribution:**
   * 25% of salaries are below **₹240K**.
   * 50% of salaries are below **₹265K** (median).
   * 75% of salaries are below **₹300K**.
   * Maximum salary shoots up to **₹940K**, showing a **large right-skew** due to high earners.

What is IQR?

IQR = Q3 – Q1

This is the **middle 50% of your data** (the “normal zone”).

Why multiply by 1.5?

Imagine you have marks of students.  
Most students are between **60 and 80** → this is the IQR.

But a few students might score **20** or **100**.  
We need a way to check: *is this “too far” from normal?*

If we only use IQR, the range is too tight.  
So statisticians decided:  
 Let’s extend the normal zone a bit more.  
 Extending by **1.5 times the IQR** usually covers almost all "normal" values.

**What happens?**

* **Lower fence = Q1 – 1.5×IQR**
* **Upper fence = Q3 + 1.5×IQR**
* Any value outside these fences is called an **outlier**.