# One-Page Summary: Placement Dataset Analysis - Percentile

**Objective:**

To understand the statistical distribution and central tendencies of students' academic scores and their relationship to placement salary using descriptive statistics.

## Dataset Overview:

**(108 rows × 7 columns):** The dataset includes students' academic performance across `ssc_p`, `hsc_p`, `degree_p`, `etest_p`, `mba_p`, and `salary`, along with a unique identifier `sl_no`.

## Statistical Summary (Extracted from Jupyter Notebook):

| Metric | 10th % (ssc_p) | 12th % (hsc_p) | Degree % (degree_p) | Test % (etest_p) | MBA % (mba_p) | Salary (₹) |
|---|---|---|---|---|---|---|
| **Q1:25%** | 60.6 | 60.9 | 61.0 | 60.0 | 57.945 | 24000 |
| **Q2: 50%** | 67.0 | 65.00 | 66.00 | 71.00 | 62.00 | 265000 |
| **Q3: 75%** | 75.7 | 73.0 | 72.0 | 83.5 | 66.255 | 300000 |
| **P99.99%** | 87.0 | 91.86 | 83.86 | 97.00 | 76.1142 | 671200 |
| **Q4:100%** | 89.4 | 97.7 | 91.0 | 98.0 | 77.89 | 940000 |

### How to Read This Table in Simple Words

- **Q1 (25%)** – 25% of people scored below this value, 75% scored above.
- **Q2 (50% / Median)** – Middle point; half scored below, half above.
- **Q3 (75%)** – 75% scored below this, only 25% scored higher.
- **P99 (99%)** – 99% scored below this, only 1% scored higher.
- **Q4 (Max)** – Highest score or salary in the group.

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## What I Learned

1. **Quartiles** divide data into four equal parts, making it easy to compare performance levels.

2. **Percentiles** like **P99** show extremely high achievers (top 1%).

3. In all academic fields (SSC%, HSC%, Degree%, E-Test%, MBA%), the difference between Q3 and Q4 shows the **gap between top performers and others**.

4. For **Salary**, the jump from Q3 (₹300k) to P99 (₹671k) shows **how rare high-paying jobs are**.

5. Q4 is much higher than P99 in Salary, showing **one or two very exceptional cases**.

6. These statistics are **more informative than just averages** because they reveal **data spread** and **rarity** of high scores.

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## Overall Summary

By analyzing Q1–Q4 and P99 for all fields:

- I can see that most students cluster between **Q1 and Q3**, meaning their scores and salaries are not widely spread for the majority.

- **P99 values** stand out, showing exceptional performance levels that only 1% of people achieve.

- Salary data has the **largest jump between Q3 and Q4**, meaning very high salaries are rare but possible.

- This understanding helps in **benchmarking** and **goal setting** for both academics and career targets.