

Analysis of PLACEMENT DATASET

logic to separate Quan & Qual - Automation logic using Function

```
def quanQual(dataset):
    quan=[]
    qual=[]
    for columnName in dataset.columns:
        if (dataset[columnName].dtypes == "O"): # "O" - Object Data type
            qual.append(columnName)
        else:
            quan.append(columnName)
    return quan,qual

quan,qual = quanQual(dataset) #calling quanQual() function
print("quan:",quan) # numerical data
print("qual:",qual) # categorical data

quan: ['ssc_p', 'hsc_p', 'degree_p', 'etest_p', 'mba_p', 'salary']
qual: ['gender', 'ssc_b', 'hsc_b', 'hsc_s', 'degree_t', 'workex', 'specialisation', 'status']
```

MEASURE OF CENTRAL TENDENCY

```
for columnName in quan:
    univariate_analysis.loc["Mean",columnName]=dataset[columnName].mean()
    univariate_analysis.loc["Median",columnName]=dataset[columnName].median()
    univariate_analysis.loc["Mode",columnName]=dataset[columnName].mode()[0]

univariate_analysis
```

	ssc_p	hsc_p	degree_p	etest_p	mba_p	salary
Mean	67.303395	66.333163	66.370186	72.100558	62.278186	288655.405405
Median	67.0	65.0	66.0	71.0	62.0	265000.0
Mode	62.0	63.0	65.0	60.0	56.7	300000.0

MY ANALYSIS IN BUSINEES POV:

Analysis of Placement Dataset Using Measures of Central Tendency

I analyzed the placement dataset by first separating the **quantitative** and **qualitative** columns. For the quantitative variables, I applied measures of central tendency—**mean, median, and mode**—to understand the overall academic and placement performance of the students.

◆ Mean Analysis

The mean values provide an overview of the average performance of students across different stages of education:

- The **mean SSLC pass percentage** is **67%**, indicating that students have, on average, performed at an **average level** in their SSLC board examinations.
- The **mean HSC pass percentage** is **66.3%**, which also suggests an **average performance** among students.
- The **mean degree pass percentage** is **66.3%**, showing that the overall degree performance of the batch is **average**.
- The **mean E-test score** is **72.1%**, which reflects a **good performance** in the entrance test.
- The **mean MBA pass percentage** is **62%**, indicating that students have performed at an **average level** during their MBA.
- The **mean salary offered during placements** is **₹2,88,655**, which gives an idea of the average compensation received by students.

From the mean analysis, it can be inferred that most students demonstrate **average academic performance**, with relatively better results in the E-test.

◆ Median Analysis

The median values help understand the central tendency **without the influence of outliers**:

- The **median SSLC percentage** is **67%**
- The **median HSC percentage** is **65%**
- The **median degree percentage** is **66%**

These values indicate that the majority of students have performed at an **average level** academically.

- The **median E-test score** is **71%**, suggesting that a significant group of students performed **well** in the test.
- The **median MBA percentage** is **62%**, again reflecting an **average performance**.
- The **median salary** is **₹2,65,000**, which is lower than the mean salary, indicating the presence of **higher salary outliers** in the dataset.

Since the median is less affected by extreme values, it provides a more **realistic representation** of the typical student's performance and salary.

◆ Mode Analysis

The mode identifies the most frequently occurring values:

- **SSLC mode:** 62%

- **HSC mode:** 63%
- **Degree mode:** 65%
- **E-test mode:** 60%
- **MBA mode:** 56.7%
- **Salary mode:** ₹3,00,000

This indicates that most students tend to score around these values, and the most common salary package offered is **₹3 LPA**.

◆ Overall Conclusion

From the analysis using measures of central tendency:

- The dataset represents a group of students who have generally **average academic performance**.
- **Mean** includes all values, including extreme scores (outliers).
- **Median** provides a better estimate of typical performance by excluding the influence of outliers.
- **Mode** helps identify the most common scores and salary offered.

Overall, this analysis shows that the batch consists predominantly of **average-performing students**, with comparatively better performance in the E-test and a commonly offered salary package of **₹3 LPA**.

MEASURE OF LOCATION OF DATA

Percentile – Placement dataset Percentile analysis report:

	ssc_p	hsc_p	degree_p	etest_p	mba_p	salary
Mean	67.303395	66.333163	66.370186	72.100558	62.278186	288655.405405
Median	67.0	65.0	66.0	71.0	62.0	265000.0
Mode	62.0	63.0	65.0	60.0	56.7	300000.0
Q1:25%	60.6	60.9	61.0	60.0	57.945	240000.0
Q2:50%	67.0	65.0	66.0	71.0	62.0	265000.0
Q3:75%	75.7	73.0	72.0	83.5	66.255	300000.0
99%	87.0	91.86	83.86	97.0	76.1142	NaN
Q4:100%	89.4	97.7	91.0	98.0	77.89	940000.0

1. SSLC (Secondary School) Marks Analysis

The SSLC marks distribution shows a **moderate and consistent performance trend** among students. Most students scored between **60 and 75 marks**, indicating average academic performance at the school level. The top-performing students scored between **87 and 89 marks**, and there is no evidence of extreme outliers. Overall, SSLC scores demonstrate stable and balanced student performance.

2. HSC (Higher Secondary) Marks Analysis

HSC marks display a **wider performance variation** compared to SSLC marks. While the majority of students scored between **60 and 73 marks**, a smaller group of students achieved significantly higher scores ranging from **91 to 97 marks**. This indicates the presence of high-performing students and a stronger differentiation in performance levels.

3. Degree Marks Analysis

Degree marks show a **uniform and stable performance distribution**. Most students scored between **61 and 83 marks**, with very few students scoring as high as **91 marks**. The data spread indicates consistent academic evaluation and minimal extreme variations across students.

4. Employability Test (E-test) Analysis

The E-test marks demonstrate a **larger performance spread**, suggesting varied employability skill levels among students. Most students scored between **60 and 83 marks**, while top performers scored between **97 and 98 marks**. The close grouping among top scorers indicates strong competition and skill similarity at higher performance levels.

5. MBA Marks Analysis

MBA marks exhibit a **tightly clustered distribution**, with most students scoring between **57 and 76 marks**. The smaller data spread suggests relatively uniform performance among students, indicating standardized evaluation patterns or similar academic outcomes.

6. Salary Distribution Analysis

The salary distribution is **highly skewed**, with the majority of students receiving placement packages between **2 to 3 LPA**. A small number of students secured premium salary packages up to **9.4 LPA**, indicating the presence of high-salary outliers. This suggests that while most placements fall within a moderate salary range, only a few students achieve significantly higher compensation.

Overall Insights

- Academic performance across SSLC, Degree, and MBA levels shows relatively consistent and moderate distribution.
- HSC and E-test results highlight stronger performance differentiation among students.
- Salary distribution indicates that most students receive moderate placement packages, with only a few achieving premium placements.
- Employability test scores suggest notable variation in practical and skill-based competencies among students.