Percentile Analysis

Dataset:

```
dataset
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	sl_no	gender	ssc_p	ssc_b	hsc_p	hsc_b	hsc_s	degree_p	degree_t	workex	etest_p	specialisation	mba_p	status	salary
0	1	M	67.00	Others	91.00	Others	Commerce	58.00	Sci&Tech	No	55.0	Mkt&HR	58.80	Placed	270000.0
1	2	M	79.33	Central	78.33	Others	Science	77.48	Sci&Tech	Yes	86.5	Mkt&Fin	66.28	Placed	200000.0
2	3	M	65.00	Central	68.00	Central	Arts	64.00	Comm&Mgmt	No	75.0	Mkt&Fin	57.80	Placed	250000.0
3	4	M	56.00	Central	52.00	Central	Science	52.00	Sci&Tech	No	66.0	Mkt&HR	59.43	Not Placed	NaN
4	5	M	85.80	Central	73.60	Central	Commerce	73.30	Comm&Mgmt	No	96.8	Mkt&Fin	55.50	Placed	425000.0
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
210	211	M	80.60	Others	82.00	Others	Commerce	77.60	Comm&Mgmt	No	91.0	Mkt&Fin	74.49	Placed	400000.0
211	212	M	58.00	Others	60.00	Others	Science	72.00	Sci&Tech	No	74.0	Mkt&Fin	53.62	Placed	275000.0
212	213	M	67.00	Others	67.00	Others	Commerce	73.00	Comm&Mgmt	Yes	59.0	Mkt&Fin	69.72	Placed	295000.0
213	214	F	74.00	Others	66.00	Others	Commerce	58.00	Comm&Mgmt	No	70.0	Mkt&HR	60.23	Placed	204000.0
214	215	M	62.00	Central	58.00	Others	Science	53.00	Comm&Mgmt	No	89.0	Mkt&HR	60.22	Not Placed	NaN

Quantitative Analysis:

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dataset[quan]
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	ssc_p	hsc_p	degree_p	etest_p	mba_p	salary
0	67.00	91.00	58.00	55.0	58.80	270000.0
1	79.33	78.33	77.48	86.5	66.28	200000.0
2	65.00	68.00	64.00	75.0	57.80	250000.0
3	56.00	52.00	52.00	66.0	59.43	NaN
4	85.80	73.60	73.30	96.8	55.50	425000.0
...	...	...	...	...	...	...
210	80.60	82.00	77.60	91.0	74.49	400000.0
211	58.00	60.00	72.00	74.0	53.62	275000.0
212	67.00	67.00	73.00	59.0	69.72	295000.0
213	74.00	66.00	58.00	70.0	60.23	204000.0
214	62.00	58.00	53.00	89.0	60.22	NaN

215 rows × 6 columns

Output:

```
percentil_with_describe(dataset)
```

	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

Calculate Quadrant Differences:

As per the output, please find the Quadrant differences table

Quadrant differences	ssc_p	hsc_p	degree_p	etest_p	mba_p
Q1:25% - Q2: 50%	6.4	5	5	11	4
Q2:50% - Q3: 75%	8.7	8	6	12.5	4.3
Q3:75% - 99%	11.3	18.9	11.86	13.5	9.9
99%-Q4:100%	2.4	5.8	7.1	1	1.8

As we haven't handled outliers yet, we can calculate salary separately using the output

Quadrant differences	Salary
Q1:25% - Q2: 50%	25000
Q2:50% - Q3: 75%	35000
Q3:75% - 100%	640000

Final Analysis:

1. The difference between **Q3:75% and 99%** has **high score** in columns ssc_p,hsc_p,degree_p,etest_p and mba_p , which means high performing individuals are in this range. We can do the interview process and provide the task

2. The difference between **99% and Quadrant Q4:100%** has **low score** as compared to **previous quadrant** but the degree score is high in this range which indicate there might be more outliers so only 1% of people got > 83 marks in degree

3. Salary has high score between **Q3:75% and Q4:100** which indicate **high marks** of students are in the range

4. The difference between **Q1:25% and Q2: 50%** , indicating that their marks are **low** so we can give those students a special training to improve their academic marks

5. The difference between **Q1:50% and Q2: 75%** indicating that their marks are **above the average** and we can provide intermediate learning program to excel their performance

6. The difference between **Q1:25% - Q2: 50% for all the columns** indicating that students are getting low marks in ssc_p,hsc_p, degree_p, mba_p but got **good score in etest_p**

7. The difference between **Q1:50% - Q2: 75% for all the columns** indicating that students are getting low marks in ssc_p,hsc_p, degree_p, mba_p but got **good score in etest_p**

8. The difference between **Q1:75% - 99% for all the columns** indicating that students are getting low marks in ssc_p,hsc_p, etest_p, degree_p, mba_p but got **good score in hsc_p**

9. The difference between **Q1:99% - Q2: 100% for all the columns** indicating that students are getting low marks in ssc_p,hsc_p, etest_p, mba_p but **got good score in degree_p**

Overall, students with high performance and favorable salaries fall within the range of 75% to 99%. We need to provide more trainings to students within the range of 25% to 50% to excel their skills