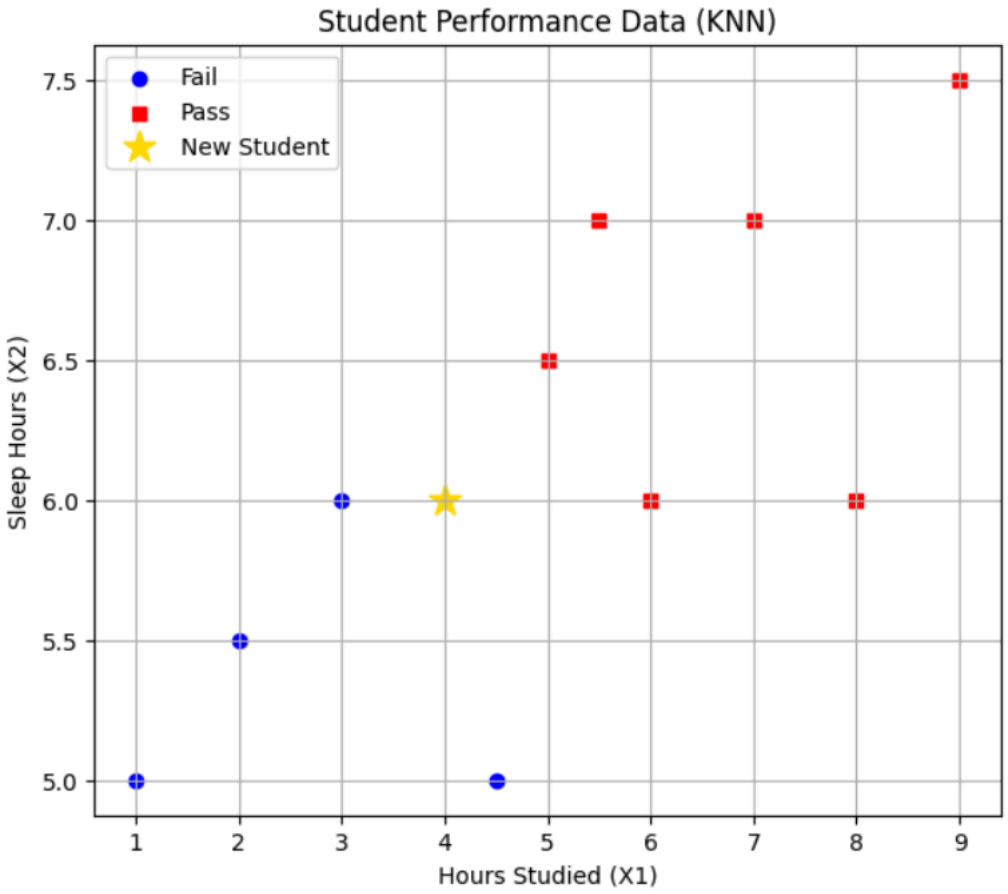
1. **Scatter plot**



2. **Compute distances**

Student	Hours Studied (X1)	Sleep Hours (X2)	Pass/Fail (Y)	Euclidean Distance
1	1	5	0	3.16
2	2	5.5	0	2.06
3	3	6	0	1
4	4.5	5	0	1.11
5	5	6.5	1	1.11
6	5.5	7	1	1.8
7	6	6	1	2
8	7	7	1	3.16
9	8	6	1	4
10	9	7.5	1	5.22

3. **Find the 3 nearest neighbors**

Student 3	1
Student 4	1.11
Student 5	1.11

4.

5. **Majority vote K = 3**

2 Fail
1 pass

Student 3	Fail
Student 4	Fail
Student 5	Pass
New Student	Fail

6. **Discussion questions**

1.What was your final prediction?
- if k = 3 then the new student Fails

2. How would the prediction change if we used k = 5 instead of k = 3?
- if k = 5 then the new student passes

Student 3	Fail
Student 4	Fail
Student 5	Pass
Student 6	Pass
Student 7	Pass
New Student	Pass