**Dataset (7 points, 2 features)**

| **ID** | **X₁** | **X₂** | **Class** |
| --- | --- | --- | --- |
| 1 | 2 | 1 | A |
| 2 | 3 | 2 | A |
| 3 | 1 | 3 | A |
| 4 | 6 | 5 | B |
| 5 | 7 | 7 | B |
| 6 | 8 | 6 | B |
| 7 | 4 | 4 | A |

We have 4 examples of class A and 3 examples of class B.

We want to classify the test point **S = (5,3)** using:

1. **Decision Tree** (with entropy and split on X₁ ≤ 4.5)
2. **KNN** (with k=3, Euclidean distance)

Then answer:

a) What is the predicted class of S by both methods?  
b) Suppose the **true class of S is A**. Construct the **confusion matrix** for each method.  
c) Compute **Precision, Recall, and F1-score** for class **A** in both cases.