

**THIS ASSIGNMENT ONE CONSISTS OF 4 QUESTIONS FROM UNIT 1,2, 3 CHAPTERS YOU SHOULD WRITE ANSWERS FOR THESE 4 QUESTIONS ON A4 SHEETS (MENTION YOUR ROLL NO ON TOP RIGHT CORNER OF EACH PAGE) AND UPLOAD THE SCANNED SHEETS TO THE SHARED DRIVE:**

**<https://drive.google.com/drive/folders/1vTb9LtiN8GcNwg6qW7KqTDxJNhvcAniQ?usp=sharing>**

**Q1:**

Describe the following problems with respect to Tasks, Performance and Experience:

- a. A Checkers learning problem
- b. A Handwritten recognition learning problem
- c. A Robot driving learning problem

**Q2:**

0. Write FIND-S algorithm and explain with example given below

Example	Sky	AirTemp	Humidity	Wind	Water	Forecast	EnjoySport
1	Sunny	Warm	Normal	Strong	Warm	Same	Yes
2	Sunny	Warm	High	Strong	Warm	Same	Yes
3	Rainy	Cold	High	Strong	Warm	Change	No
4	Sunny	Warm	High	Strong	Cool	Change	Yes

**Q3:**

Write the final version space for the below mentioned training examples using candidate elimination algorithm.

Example	Sky	AirTemp	Humidity	Wind	Water	Forecast	EnjoySport
1	Sunny	Warm	Normal	Strong	Warm	Same	Yes
2	Sunny	Warm	High	Strong	Warm	Same	Yes
3	Rainy	Cold	High	Strong	Warm	Change	No
4	Sunny	Warm	High	Strong	Cool	Change	Yes

**Q4:**

Give Decision trees for the following set of training examples

Day	Outlook	Temperature	Humidity	Wind	PlayTennis
D1	Sunny	Hot	High	Weak	No
D2	Sunny	Hot	High	Strong	No
D3	Overcast	Hot	High	Weak	Yes
D4	Rain	Mild	High	Weak	Yes
D5	Rain	Cool	Normal	Weak	Yes
D6	Rain	Cool	Normal	Strong	No
D7	Overcast	Cool	Normal	Strong	Yes
D8	Sunny	Mild	High	Weak	No
D9	Sunny	Cool	Normal	Weak	Yes
D10	Rain	Mild	Normal	Weak	Yes
D11	Sunny	Mild	Normal	Strong	Yes
D12	Overcast	Mild	High	Strong	Yes
D13	Overcast	Hot	Normal	Weak	Yes
D14	Rain	Mild	High	Strong	No