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## HW1 Part2

**Library used**: scikit-learn.

**Criteria used**: entropy.

Risk: 0=low, 2=high

Debt: 0=low, 1=medium, 2=high

Income: 0=low, 1=medium, 2=high

Married: 0=no, 1=yes

Owns\_Property: 0=no, 1=yes

Gender: 0=male, 1=female

Thus, given train data after encoding:

For part2.2 we are only changing value from ‘0’ to ‘2’.

A screenshot of a computer screen

Description automatically generated

Thus, Test data after encoding:

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## Output1: Decision tree when Sofia’s risk is low/0:

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## Prediction when Sofia’s risk is low/0:

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this means: Credit Risk (Tom) = Low Credit Risk (Ana) = Low

## Output2: Decision tree when Sofia’s risk is high/2:

As we can see Sofia’s Credit Risk is changed to ‘High’ from ‘Low’, feature attribute ‘Gender’ is no longer exist in the Decision Tree.

A computer screen shot of a computer code

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## Prediction when Sofia’s risk is high/2:



this means: Credit Risk (Tom) = Low Credit Risk (Ana) = Low

Also, in both decision trees, ‘Owns\_Property’ plays no role in decision tree formation.