* + - 1. Consider the training examples shown in below Table for classification problem.

|  |  |  |  |
| --- | --- | --- | --- |
| *Gender* | *Car Type* | *Shirt Size* | *Class* |
| M | Family | Small | C0 |
| M | Sports | Medium | C0 |
| M | Sports | Medium | C0 |
| M | Sports | Large | C0 |
| M | Sports | Extra Large | C0 |
| M | Sports | Extra Large | C0 |
| F | Sports | Small | C0 |
| F | Sports | Small | C0 |
| F | Sports | Medium | C0 |
| F | Luxury | Large | C0 |
| M | Family | Large | C1 |
| M | Family | Extra Large | C1 |
| M | Family | Medium | C1 |
| M | Luxury | Extra Large | C1 |
| F | Luxury | Small | C1 |

*Contd.*

|  |  |  |  |
| --- | --- | --- | --- |
| F | Luxury | Small | C1 |
| F | Luxury | Medium | C1 |
| F | Luxury | Medium | C1 |
| F | Luxury | Medium | C1 |
| F | Luxury | Large | C1 |

* Apply the split algorithm based on information theory to perform classification of the given dataset. Indicate all intermediate steps properly.