**ASSIGNMENT NUMBER 01**

Machine Learning

FA21- BSE - **083**

**Ali** Asghar



**Beak shape:** Pointed

**Visible ear:** No ears

**Instance Space**

|  |  |  |
| --- | --- | --- |
| Visible ear | Beak Shape | Bird? |
| Huge | Pointed | - |
| Huge | Hooked | - |
| Huge | Curved | - |
| Small | Pointed | - |
| Small | Hooked | - |
| Small | Curved | - |
| No ears | Pointed | - |
| No ears | Hooked | - |
| No ears | Curved | - |

Size of instance space = |X| = 3\*3

**Concept Space**

|  |  |  |
| --- | --- | --- |
| Visible ear | Beak Shape | Bird? |
| Huge | Pointed | 1 |
| Huge | Hooked | 0 |
| Huge | Curved | 0 |
| Small | Pointed | 0 |
| Small | Hooked | 0 |
| Small | Curved | 0 |
| No ears | Pointed | 0 |
| No ears | Hooked | 0 |
| No ears | Curved | 0 |

|  |  |  |
| --- | --- | --- |
| 1 | 0 | 0 |
| 0 | 0 | 0 |
| 0 | 0 | 0 |

C1 = < Legs = Two AND Beak shape = Pointed>

|  |  |  |
| --- | --- | --- |
| Visible ear | Beak Shape | Bird? |
| Huge | Pointed | 0 |
| Huge | Hooked | 0 |
| Huge | Curved | 0 |
| Small | Pointed | 0 |
| Small | Hooked | 0 |
| Small | Curved | 0 |
| No ears | Pointed | 1 |
| No ears | Hooked | 0 |
| No ears | Curved | 0 |

|  |  |  |
| --- | --- | --- |
| 0 | 0 | 0 |
| 0 | 0 | 0 |
| 1 | 0 | 0 |

C2 = < Visible ear = No ears AND Beak shape = Pointed>

|  |  |  |
| --- | --- | --- |
| Visible ear | Beak Shape | Bird? |
| Huge | Pointed | 0 |
| Huge | Hooked | 0 |
| Huge | Curved | 0 |
| Small | Pointed | 0 |
| Small | Hooked | 1 |
| Small | Curved | 0 |
| No ears | Pointed | 0 |
| No ears | Hooked | 0 |
| No ears | Curved | 1 |

|  |  |  |
| --- | --- | --- |
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 0 | 0 | 1 |

C3 = < Visible ear = Small AND Beak shape = Hooked OR Visible ear = No ears AND Beak shape = Curved>

|  |  |  |
| --- | --- | --- |
| Visible ear | Beak Shape | Bird? |
| Huge | Pointed | 1 |
| Huge | Hooked | 0 |
| Huge | Curved | 0 |
| Small | Pointed | 0 |
| Small | Hooked | 1 |
| Small | Curved | 0 |
| No ears | Pointed | 0 |
| No ears | Hooked | 0 |
| No ears | Curved | 0 |

|  |  |  |
| --- | --- | --- |
| 1 | 0 | 0 |
| 0 | 1 | 0 |
| 0 | 0 | 0 |

C4 = < Visible Ear = Huge AND Beak shape = Pointed OR Visible ear = small AND Beak shape = Hooked>

|  |  |  |
| --- | --- | --- |
| Visible ear | Beak Shape | Bird? |
| Huge | Pointed | 0 |
| Huge | Hooked | 0 |
| Huge | Curved | 0 |
| Small | Pointed | 1 |
| Small | Hooked | 1 |
| Small | Curved | 0 |
| No ears | Pointed | 0 |
| No ears | Hooked | 0 |
| No ears | Curved | 1 |

|  |  |  |
| --- | --- | --- |
| 0 | 0 | 0 |
| 1 | 1 | 0 |
| 0 | 0 | 1 |

C5 = < Visible ear = Small AND Beak shape = Pointed OR Visible ear = Small AND beak shape = hooked OR Visible ear = No ear AND beak shape = Curved>

|  |  |  |
| --- | --- | --- |
| Visible ear | Beak Shape | Bird? |
| Huge | Pointed | 0 |
| Huge | Hooked | 0 |
| Huge | Curved | 1 |
| Small | Pointed | 0 |
| Small | Hooked | 1 |
| Small | Curved | 1 |
| No ears | Pointed | 0 |
| No ears | Hooked | 0 |
| No ears | Curved | 0 |

|  |  |  |
| --- | --- | --- |
| 0 | 0 | 1 |
| 0 | 1 | 1 |
| 0 | 0 | 0 |

C6 = < Visible ear = Huge AND beak shape = Curved OR Visible ear = Small AND Beak shape = Hooked OR Visible ear = Small AND beak shape = curved >

|  |  |  |
| --- | --- | --- |
| Visible ear | Beak Shape | Bird? |
| Huge | Pointed | 1 |
| Huge | Hooked | 0 |
| Huge | Curved | 1 |
| Small | Pointed | 0 |
| Small | Hooked | 0 |
| Small | Curved | 0 |
| No ears | Pointed | 1 |
| No ears | Hooked | 0 |
| No ears | Curved | 1 |

|  |  |  |
| --- | --- | --- |
| 1 | 0 | 1 |
| 0 | 0 | 0 |
| 1 | 0 | 1 |

C7 = < Visible ear = Huge AND beak shape = pointed OR visible ear = Huge AND beak shape = Curved OR Visible ear = No ears AND beak shape = Pointed OR Visible ear = No ears AND Beak shape = curved >

|  |  |  |
| --- | --- | --- |
| Visible ear | Beak Shape | Bird? |
| Huge | Pointed | 0 |
| Huge | Hooked | 1 |
| Huge | Curved | 1 |
| Small | Pointed | 0 |
| Small | Hooked | 1 |
| Small | Curved | 0 |
| No ears | Pointed | 0 |
| No ears | Hooked | 1 |
| No ears | Curved | 0 |

|  |  |  |
| --- | --- | --- |
| 0 | 1 | 1 |
| 0 | 1 | 0 |
| 0 | 1 | 0 |

C8 = < visible ear = Huge AND Beak shape = hooked OR visible ear = Huge AND beak shape = curved OR Visible ear = small AND beak shape = hooked OR visible ear = no ear AND beak shape = Hooked >

|  |  |  |
| --- | --- | --- |
| 1 | 0 | 0 |
| 0 | 0 | 0 |
| 0 | 0 | 0 |

C1

|  |  |  |
| --- | --- | --- |
| 0 | 0 | 0 |
| 0 | 0 | 0 |
| 1 | 0 | 0 |

C2

|  |  |  |
| --- | --- | --- |
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 0 | 0 | 1 |

C3

|  |  |  |
| --- | --- | --- |
| 1 | 0 | 0 |
| 0 | 1 | 0 |
| 0 | 0 | 0 |

C4

|  |  |  |
| --- | --- | --- |
| 0 | 0 | 0 |
| 1 | 1 | 0 |
| 0 | 0 | 1 |

C5

|  |  |  |
| --- | --- | --- |
| 0 | 0 | 1 |
| 0 | 1 | 1 |
| 0 | 0 | 0 |

C6

|  |  |  |
| --- | --- | --- |
| 1 | 0 | 1 |
| 0 | 0 | 0 |
| 1 | 0 | 1 |

C7

|  |  |  |
| --- | --- | --- |
| 0 | 1 | 1 |
| 0 | 1 | 0 |
| 0 | 1 | 0 |

C8

.

.

.

|  |  |  |
| --- | --- | --- |
| 1 | 1 | 1 |
| 1 | 1 | 0 |
| 1 | 1 | 1 |

C511

|  |  |  |
| --- | --- | --- |
| 1 | 1 | 1 |
| 1 | 1 | 1 |
| 1 | 1 | 1 |

C512

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**