**Practical work assignments 5**

In this work, each student will have to complete two tasks according to their variant number. The variant number corresponds to the student's number in the journal.

**Task 1**

A table is given in which Object\Attributes have non-target attributes P1, P2, P3 and target attribute Y. As is known, the feature with the minimum Gini uncertainty value is chosen as the branching condition. Calculate this value for each non-target feature.

**Variants:**

1.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 0 | 1 | 0 |
| **B** | 0 | 1 | 1 | 1 |
| **C** | 1 | 1 | 0 | 1 |
| **D** | 1 | 1 | 0 | 1 |

2.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 0 | 0 | 1 | 1 |
| **B** | 0 | 1 | 1 | 1 |
| **C** | 1 | 1 | 0 | 1 |
| **D** | 1 | 1 | 0 | 1 |

3.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 1 | 1 | 0 |
| **B** | 0 | 0 | 1 | 1 |
| **C** | 1 | 1 | 0 | 0 |
| **D** | 1 | 1 | 0 | 1 |

4.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 0 | 1 | 1 |
| **B** | 0 | 1 | 1 | 1 |
| **C** | 1 | 0 | 0 | 0 |
| **D** | 1 | 1 | 0 | 1 |

5.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 0 | 0 | 0 |
| **B** | 0 | 1 | 1 | 0 |
| **C** | 1 | 1 | 0 | 1 |
| **D** | 1 | 1 | 0 | 1 |

6.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 0 | 1 | 1 | 0 |
| **B** | 0 | 1 | 0 | 1 |
| **C** | 1 | 0 | 0 | 1 |
| **D** | 1 | 1 | 0 | 1 |

7.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 0 | 0 | 0 |
| **B** | 0 | 1 | 1 | 1 |
| **C** | 1 | 0 | 0 | 1 |
| **D** | 1 | 1 | 0 | 1 |

8.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 0 | 1 | 0 |
| **B** | 1 | 1 | 1 | 1 |
| **C** | 1 | 1 | 0 | 0 |
| **D** | 1 | 1 | 0 | 1 |

9.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 1 | 1 | 0 |
| **B** | 0 | 1 | 1 | 1 |
| **C** | 1 | 0 | 0 | 0 |
| **D** | 1 | 0 | 0 | 0 |

10.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 0 | 1 | 0 |
| **B** | 0 | 1 | 1 | 1 |
| **C** | 0 | 1 | 0 | 1 |
| **D** | 1 | 0 | 1 | 1 |

11.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 1 | 0 | 0 |
| **B** | 0 | 1 | 0 | 1 |
| **C** | 1 | 1 | 0 | 1 |
| **D** | 1 | 1 | 0 | 1 |

12.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 0 | 1 | 0 |
| **B** | 0 | 1 | 1 | 1 |
| **C** | 1 | 1 | 1 | 1 |
| **D** | 1 | 0 | 0 | 1 |

13.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 1 | 1 | 0 |
| **B** | 0 | 0 | 1 | 1 |
| **C** | 1 | 1 | 0 | 1 |
| **D** | 1 | 1 | 0 | 0 |

14.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 1 | 1 | 1 |
| **B** | 0 | 1 | 1 | 1 |
| **C** | 1 | 1 | 0 | 1 |
| **D** | 1 | 0 | 1 | 1 |

15.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 0 | 1 | 0 |
| **B** | 0 | 0 | 0 | 1 |
| **C** | 1 | 1 | 1 | 1 |
| **D** | 1 | 0 | 0 | 1 |

16.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 0 | 1 | 0 |
| **B** | 0 | 1 | 1 | 1 |
| **C** | 1 | 1 | 0 | 0 |
| **D** | 1 | 1 | 1 | 1 |

17.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 0 | 1 | 0 |
| **B** | 0 | 1 | 1 | 1 |
| **C** | 1 | 1 | 1 | 1 |
| **D** | 1 | 1 | 0 | 1 |

18.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 0 | 0 | 1 | 0 |
| **B** | 0 | 1 | 1 | 1 |
| **C** | 1 | 0 | 0 | 1 |
| **D** | 0 | 1 | 0 | 1 |

19.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 0 | 1 | 0 |
| **B** | 0 | 1 | 1 | 1 |
| **C** | 1 | 1 | 0 | 0 |
| **D** | 1 | 1 | 0 | 1 |

20.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 0 | 1 | 0 |
| **B** | 0 | 1 | 1 | 1 |
| **C** | 0 | 1 | 0 | 0 |
| **D** | 1 | 0 | 0 | 1 |

21.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 0 | 1 | 0 |
| **B** | 0 | 1 | 1 | 0 |
| **C** | 1 | 1 | 0 | 1 |
| **D** | 1 | 1 | 0 | 1 |

22.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 0 | 0 | 0 |
| **B** | 0 | 1 | 1 | 0 |
| **C** | 1 | 0 | 0 | 1 |
| **D** | 1 | 1 | 0 | 1 |

23.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 0 | 1 | 0 |
| **B** | 1 | 0 | 1 | 1 |
| **C** | 1 | 0 | 0 | 1 |
| **D** | 1 | 1 | 0 | 1 |

24.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 0 | 1 | 0 |
| **B** | 0 | 1 | 1 | 1 |
| **C** | 1 | 1 | 0 | 1 |
| **D** | 0 | 1 | 1 | 1 |

25.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 0 | 0 | 0 |
| **B** | 0 | 1 | 1 | 1 |
| **C** | 1 | 1 | 0 | 0 |
| **D** | 1 | 1 | 0 | 1 |

26.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 0 | 1 | 0 |
| **B** | 0 | 1 | 1 | 1 |
| **C** | 1 | 1 | 0 | 1 |
| **D** | 1 | 1 | 0 | 1 |

27.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 1 | 0 | 0 |
| **B** | 0 | 0 | 1 | 1 |
| **C** | 1 | 1 | 0 | 1 |
| **D** | 1 | 1 | 0 | 1 |

28.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 0 | 1 | 0 |
| **B** | 0 | 1 | 1 | 1 |
| **C** | 1 | 1 | 0 | 1 |
| **D** | 1 | 1 | 1 | 1 |

29.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 0 | 1 | 0 |
| **B** | 0 | 0 | 0 | 1 |
| **C** | 1 | 1 | 0 | 1 |
| **D** | 1 | 1 | 0 | 1 |

30.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object\Attribute** | **P1** | **P2** | **P3** | **Y** |
| **A** | 1 | 1 | 1 | 0 |
| **B** | 0 | 1 | 1 | 1 |
| **C** | 1 | 0 | 0 | 1 |
| **D** | 1 | 0 | 1 | 0 |

**Task 2**

Classify data using decision trees and Gini uncertainty.

**Variants:**

1.

A dataset is given, consisting of 15 objects with 4 non–target features (A – Gray coat color; B – Has a tail; C – Meows; D – Does not bite), the target feature (E – Cat), divided into 2 classes (Cat/ Non-cat = 1/0).

It is necessary to determine whether object № 16 belongs to the "cat" class or not with the given values of the attributes.

Training sample:

№ A B C D E

1 1 1 1 1 1

2 0 1 0 0 0

3 1 0 1 1 1

4 0 1 0 0 0

5 1 1 1 1 1

6 0 0 0 0 0

7 1 1 0 1 1

8 0 1 0 0 0

9 1 1 1 1 1

10 0 0 0 0 0

11 1 1 0 1 1

12 0 1 0 0 0

13 1 1 1 1 1

14 0 0 0 0 0

15 1 1 0 1 1

16 0 1 1 0 ?

2.

Given a dataset consisting of 15 objects with 4 non–target features (A – Body length = 50 cm; B –Has scales; C – Crawls; D - Does not hiss), the target feature (E –Snake), divided into 2 classes (Snake / Non-snake = 1/0).

It is necessary to determine whether object № 16 belongs to the "snake" class or not, given the values of the attributes.

Training sample:

№ A B C D E

1 1 1 1 0 1

2 0 1 0 1 0

3 1 0 1 0 0

4 0 1 1 0 1

5 1 1 0 1 0

6 0 0 1 0 0

7 1 1 1 0 1

8 0 1 0 1 0

9 1 1 0 0 1

10 0 0 1 0 0

11 1 1 1 0 1

12 0 1 0 1 0

13 1 0 1 0 0

14 0 1 1 0 1

15 1 1 0 1 0

16 0 1 1 0 ?

3.

Given a dataset consisting of 15 objects with 4 non–target features (A – Wing size = 3 mm; B – Buzzes; C – Collects honey; D – Does not sting), the target feature (E – Bee), разделённых на 2 класса (Bee / Non-Bee = 1/0).

It is necessary to determine whether object № 16 belongs to the "Bee" class or not, given the values of the attributes.

Training sample:

№ A B C D E

1 1 1 1 0 1

2 0 1 0 1 0

3 1 0 1 0 0

4 0 1 1 0 1

5 1 1 0 1 0

6 0 0 1 0 0

7 1 1 1 0 1

8 0 1 0 1 0

9 1 1 0 0 1

10 0 0 1 0 0

11 1 1 1 0 1

12 0 1 0 1 0

13 1 0 1 0 0

14 0 1 1 0 1

15 1 1 0 1 0

16 0 1 1 0 ?

4.

There is a dataset consisting of 15 objects with 4 non–target attributes (A – Horns; B – Bellows; C –Gives milk; D – Does not kick), the target attribute (E -Cow), divided into 2 classes (Cow/Non-cow = 1/0).

It is necessary to determine whether object № 16 belongs to the " Cow " class or not, given the values of the attributes.

Training sample:

№ A B C D E

1 1 1 1 1 1

2 0 1 0 0 0

3 1 0 1 1 1

4 0 1 0 0 0

5 1 1 1 1 1

6 0 0 0 0 0

7 1 1 1 1 1

8 0 1 0 0 0

9 1 1 1 1 1

10 0 0 0 0 0

11 1 1 1 1 1

12 0 1 0 0 0

13 1 0 1 1 1

14 0 1 0 0 0

15 1 1 1 1 1

16 0 1 1 1 ?

5.

Given a dataset consisting of 15 objects with 4 non-target attributes (A – Red; B – Eats grass; C – Lives in the forest; D – Does not hunt), the target attribute (E – Moose), divided into 2 classes (Moose/Non-moose = 1/0).

It is necessary to determine whether object № 16 belongs to the " Moose " class or not, given the values of the attributes.

Training sample:

№ A B C D E

1 1 0 1 1 1

2 0 1 0 0 0

3 1 0 1 1 1

4 0 1 0 0 0

5 1 0 1 1 1

6 0 1 0 0 0

7 1 0 1 1 1

8 0 1 0 0 0

9 1 0 1 1 1

10 0 1 0 0 0

11 1 0 1 1 1

12 0 1 0 0 0

13 1 0 1 1 1

14 0 1 0 0 0

15 1 0 1 1 1

16 0 1 0 0 ?

6.

Given a dataset consisting of 15 objects with 4 non–target features (A – Barks; B –Eats meat; C – Domestic; D – Does not bite), the target feature (E - Dog), divided into 2 classes (Dog / Non-dog = 1/0).

It is necessary to determine whether object № 16 belongs to the " Dog " class or not, given the values of the attributes.

Training sample:

№ A B C D E

1 1 1 1 1 1

2 0 1 0 0 0

3 1 0 1 1 1

4 0 1 0 0 0

5 1 1 1 1 1

6 0 0 0 0 0

7 1 1 1 1 1

8 0 1 0 0 0

9 1 1 1 1 1

10 0 0 0 0 0

11 1 1 1 1 1

12 0 1 0 0 0

13 1 0 1 1 1

14 0 1 0 0 0

15 1 1 1 1 1

16 0 1 0 0 ?

7.

Given a dataset consisting of 15 objects with 4 non–target features (A – Horns; B – Eats grass; C - Lives in the forest; D - Does not kick), the target feature (E – Deer), divided into 2 classes (Deer / Non-deer = 1/0).

It is necessary to determine whether object № 16 belongs to the " Deer " class or not, given the values of the attributes.

Training sample:

№ A B C D E

1 1 1 1 0 1

2 0 1 0 1 0

3 1 0 1 0 0

4 0 1 0 0 0

5 1 1 1 0 1

6 0 0 0 0 0

7 1 1 1 0 1

8 0 1 0 1 0

9 1 1 1 0 1

10 0 0 0 0 0

11 1 1 1 0 1

12 0 1 0 1 0

13 1 0 1 0 0

14 0 1 0 0 0

15 1 1 1 0 1

16 0 1 0 1 ?

8.

There is a dataset consisting of 15 objects with 4 non–target features (A – Feathers; B – Cackles; C – Lays eggs; D – Does not fly), a target feature (E - Chicken),

divided into 2 classes (Chicken / Non-chicken = 1/0).

It is necessary to determine whether object № 16 belongs to the " Chicken " class or not, given the values of the attributes.

Training sample:

№ A B C D E

1 1 1 1 0 1

2 0 1 0 1 0

3 1 0 1 0 0

4 0 1 0 1 0

5 1 1 1 0 1

6 0 0 0 0 0

7 1 1 1 0 1

8 0 1 0 1 0

9 1 1 1 0 1

10 0 0 0 0 0

11 1 1 1 0 1

12 0 1 0 1 0

13 1 0 1 0 0

14 0 1 0 1 0

15 1 1 1 0 1

16 0 1 0 1 ?

9.

There is a dataset consisting of 15 Objects with 4 non–target attributes (A - Flies; B – Sees at night; C – Lives high; D – Does not scream), the target attribute (E – Eagle), divided into 2 classes (Eagle /Not eagle = 1/0).

It is necessary to determine whether object № 16 belongs to the " Eagle " class or not, given the values of the attributes.

Training sample:

№ A B C D E

1 1 1 1 0 1

2 0 1 0 1 0

3 1 0 1 0 0

4 0 1 0 1 0

5 1 1 1 0 1

6 0 0 0 0 0

7 1 1 1 0 1

8 0 1 0 1 0

9 1 1 1 0 1

10 0 0 0 0 0

11 1 1 1 0 1

12 0 1 0 1 0

13 1 0 1 0 0

14 0 1 0 1 0

15 1 1 1 0 1

16 0 1 0 1 ?

10.

Given a dataset consisting of 15 objects with 4 non–target features (A – Large size; B – Has a trunk; C – Drinks water; D –Does not roar), the target attribute (E – Elephant), divided into 2 classes (Elephant / Non-elephant = 1/0).

It is necessary to determine whether object № 16 belongs to the " Elephant " class or not, given the values of the attributes.

Training sample:

№ A B C D E

1 1 1 1 0 1

2 0 1 0 1 0

3 1 0 1 0 0

4 0 1 0 1 0

5 1 1 1 0 1

6 0 0 0 0 0

7 1 1 1 0 1

8 0 1 0 1 0

9 1 1 1 0 1

10 0 0 0 0 0

11 1 1 1 0 1

12 0 1 0 1 0

13 1 0 1 0 0

14 0 1 0 1 0

15 1 1 1 0 1

16 0 1 0 1 ?

11.

Given a dataset consisting of 15 objects with 4 non–target features (A –Long neck; B – Drinks water; C – Lives in a shroud; D – Does not make noise), the target trait (E – Giraffe), divided into 2 classes (Giraffe /Non-giraffe = 1/0).

It is necessary to determine whether object № 16 belongs to the " Giraffe " class or not, given the values of the attributes.

Training sample:

№ A B C D E

1 1 1 1 0 1

2 0 1 0 1 0

3 1 0 1 0 0

4 0 1 0 1 0

5 1 1 1 0 1

6 0 0 0 0 0

7 1 1 1 0 1

8 0 1 0 1 0

9 1 1 1 0 1

10 0 0 0 0 0

11 1 1 1 0 1

12 0 1 0 1 0

13 1 0 1 0 0

14 0 1 0 1 0

15 1 1 1 0 1

16 0 1 0 1 ?

12.

Given a dataset consisting of 15 objects with 4 non–target features (A –White fur; B –Jumps; C – Eats sunflower seeds; D – Sleeps in a hollow), the target trait (E – Squirrel), divided into 2 classes (Squirrel / Non- Squirrel = 1/0).

It is necessary to determine whether object № 16 belongs to the " Squirrel " class or not, given the values of the attributes.

Training sample:

№ A B C D E

1 1 1 1 0 1

2 0 1 0 1 0

3 1 0 1 0 0

4 0 1 0 1 0

5 1 1 1 0 1

6 0 0 0 0 0

7 1 1 1 0 1

8 0 1 0 1 0

9 1 1 1 0 1

10 0 0 0 0 0

11 1 1 1 0 1

12 0 1 0 1 0

13 1 0 1 0 0

14 0 1 0 1 0

15 1 1 1 0 1

16 0 1 0 1 ?

13.

Given a dataset consisting of 15 objects with 4 non–target features (A – Alive in the water; B – has rays; C – Jumps on the sands; D – Does not glow at night), the target feature (Starfish), divided into 2 classes (Starfish / Non-starfish = 1/0).

It is necessary to determine whether object № 16 belongs to the " Starfish " class or not, given the values of the attributes.

Training sample:

№ A B C D E

1 1 1 1 0 1

2 0 1 0 1 0

3 1 0 1 0 0

4 0 1 0 1 0

5 1 1 1 0 1

6 0 0 0 0 0

7 1 1 1 0 1

8 0 1 0 1 0

9 1 1 1 0 1

10 0 0 0 0 0

11 1 1 1 0 1

12 0 1 0 1 0

13 1 0 1 0 0

14 0 1 0 1 0

15 1 1 1 0 1

16 0 1 0 1 ?

14.

Given a dataset consisting of 15 objects with 4 non–target features (A –Woolly tail; B – Growls; C – Hunts at night; D – Does not bark during the day), the target trait (E – Lion), divided into 2 classes (Lion / Non-Lion = 1/0).

It is necessary to determine whether object № 16 belongs to the " Lion " class or not, given the values of the attributes.

Training sample:

№ A B C D E

1 1 1 1 0 1

2 0 1 0 1 0

3 1 0 1 0 0

4 0 1 0 1 0

5 1 1 1 0 1

6 0 0 0 0 0

7 1 1 1 0 1

8 0 1 0 1 0

9 1 1 1 0 1

10 0 0 0 0 0

11 1 1 1 0 1

12 0 1 0 1 0

13 1 0 1 0 0

14 0 1 0 1 0

15 1 1 1 0 1

16 0 1 0 1 ?

15.

Given a dataset consisting of 15 objects with 4 non–target features ( A – Flies; B – Has wings; C – Fiery color; D – Does not live in the sand), target feature (The Flying Dragon), divided into 2 classes (The Flying Dragon / Non-The Flying Dragon = 1/0).

It is necessary to determine whether object № 16 belongs to the " The Flying Dragon " class or not, given the values of the attributes.

Training sample:

№ A B C D E

1 1 1 1 0 1

2 0 1 0 1 0

3 1 0 1 0 0

4 0 1 0 1 0

5 1 1 1 0 1

6 0 0 0 0 0

7 1 1 1 0 1

8 0 1 0 1 0

9 1 1 1 0 1

10 0 0 0 0 0

11 1 1 1 0 1

12 0 1 0 1 0

13 1 0 1 0 0

14 0 1 0 1 0

15 1 1 1 0 1

16 0 1 0 1 ?

16.

Given a dataset consisting of 15 objects with 4 non–target features (A –Black color; B – Flies; C – Eats worms; D – Does not sit on a tree), target feature (Crow), divided into 2 classes (Crow / Non-Crow = 1/0).

It is necessary to determine whether object № 16 belongs to the " Crow " class or not, given the values of the attributes.

Training sample:

№ A B C D E

1 1 1 1 0 1

2 0 1 0 1 0

3 1 0 1 0 0

4 0 1 0 1 0

5 1 1 1 0 1

6 0 0 0 0 0

7 1 1 1 0 1

8 0 1 0 1 0

9 1 1 1 0 1

10 0 0 0 0 0

11 1 1 1 0 1

12 0 1 0 1 0

13 1 0 1 0 0

14 0 1 0 1 0

15 1 1 1 0 1

16 0 1 0 1 ?

17.

A set of observations is given, divided into classes. Each observation has 4 signs. Based on these observations, it is necessary to calculate the receipt of a loan by the person number 11.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Surveillance Number | Stable income (A) | Debt-free (B) | Credit history(C) | Employment (D) | Approval (E) |
| 1 | High | yes | Good | Full | Yes |
| 2 | Low | No | Good | No | No |
| 3 | High | Yes | Average | Partial | No |
| 4 | High | No | The bad one | Full | Yes |
| 5 | Low | Yes | Average | Partial | No |
| 6 | High | Yes | Good | Full | Yes |
| 7 | Low | Yes | The bad one | Partial | No |
| 8 | High | No | The bad one | Full | Yes |
| 9 | High | No | Good | Full | Yes |
| 10 | Low | Yes | The bad one | No | No |
| 11 | High | Yes | The bad one | Partial | ? |

18.

A set of observations is given, divided into classes. Each observation has 4 signs. Based on these observations, it is necessary to calculate the receipt of a loan by the person number 11.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Surveillance Number | Stable income (A) | Debt-free (B) | Credit history(C) | Employment (D) | Approval (E) |
| 1 | High | yes | Good | Full | Yes |
| 2 | Low | No | Good | No | No |
| 3 | High | Yes | Average | Partial | No |
| 4 | High | No | The bad one | Full | Yes |
| 5 | Low | No | Average | No | No |
| 6 | High | Yes | Average | Full | Yes |
| 7 | Low | Yes | The bad one | Partial | No |
| 8 | High | No | The bad one | Full | Yes |
| 9 | High | No | Average | Full | No |
| 10 | Low | Yes | The bad one | No | No |
| 11 | High | Yes | The bad one | Full | ? |

19.

A set of observations is given, divided into classes. Each observation has 4 signs. Based on these observations, it is necessary to calculate the receipt of a loan by the person number 11.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Surveillance Number | Stable income (A) | Debt-free (B) | Credit history(C) | Employment (D) | Approval (E) |
| 1 | High | yes | Good | Full | Yes |
| 2 | Low | No | Good | No | No |
| 3 | High | Yes | Average | Partial | No |
| 4 | High | No | The bad one | Full | Yes |
| 5 | Low | No | Average | Partial | No |
| 6 | High | Yes | Average | Full | Yes |
| 7 | Low | Yes | The bad one | Partial | No |
| 8 | High | No | The bad one | Full | Yes |
| 9 | High | No | Average | Full | No |
| 10 | Low | Yes | The bad one | No | No |
| 11 | High | Yes | The bad one | Full | ? |

20.

A set of observations is given, divided into classes. Each observation has 4 signs. Based on these observations, it is necessary to calculate the receipt of a loan by the person number 11.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Surveillance Number | Stable income (A) | Debt-free (B) | Credit history(C) | Employment (D) | Approval (E) |
| 1 | High | yes | Good | Full | Yes |
| 2 | Low | No | Good | No | No |
| 3 | High | Yes | Average | Partial | No |
| 4 | High | No | The bad one | Full | Yes |
| 5 | Low | No | Average | Partial | No |
| 6 | High | Yes | Average | Full | Yes |
| 7 | Low | Yes | The bad one | Partial | No |
| 8 | High | No | The bad one | Full | Yes |
| 9 | High | No | Average | Full | No |
| 10 | Low | Yes | The bad one | No | No |
| 11 | High | Yes | The bad one | No | ? |

21.

A set of observations is given, divided into classes. Each observation has 4 signs. Based on these observations, it is necessary to calculate the receipt of a loan by the person number 11.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Surveillance Number | Stable income (A) | Debt-free (B) | Credit history(C) | Employment (D) | Approval (E) |
| 1 | High | yes | Good | Full | Yes |
| 2 | Low | No | Good | No | No |
| 3 | High | Yes | Average | Partial | No |
| 4 | High | No | The bad one | Full | Yes |
| 5 | Low | No | Average | Partial | No |
| 6 | High | Yes | Average | Full | Yes |
| 7 | Low | Yes | The bad one | Partial | No |
| 8 | High | No | The bad one | Full | Yes |
| 9 | Low | No | Average | Full | No |
| 10 | Low | Yes | The bad one | No | No |
| 11 | High | No | The bad one | Partial | ? |

22.

A set of observations is given, divided into classes. Each observation has 4 signs. Based on these observations, it is necessary to calculate the receipt of a loan by the person number 11.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Surveillance Number | Stable income (A) | Debt-free (B) | Credit history(C) | Employment (D) | Approval (E) |
| 1 | High | yes | Good | Full | Yes |
| 2 | Low | No | Good | No | No |
| 3 | High | Yes | Good | Partial | No |
| 4 | High | No | The bad one | Full | Yes |
| 5 | Low | No | Average | Partial | No |
| 6 | High | Yes | Average | Full | Yes |
| 7 | Low | Yes | The bad one | Partial | No |
| 8 | High | No | The bad one | Full | Yes |
| 9 | High | No | Average | Full | No |
| 10 | Low | Yes | The bad one | No | No |
| 11 | High | No | Good | No | ? |

23.

A set of observations is given, divided into classes. Each observation has 4 signs. Based on these observations, it is necessary to calculate the receipt of a loan by the person number 11.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Surveillance Number | Stable income (A) | Debt-free (B) | Credit history(C) | Employment (D) | Approval (E) |
| 1 | High | yes | Good | Full | Yes |
| 2 | Low | No | Good | No | No |
| 3 | High | Yes | Average | Partial | No |
| 4 | High | No | The bad one | Full | Yes |
| 5 | Low | No | Average | Partial | No |
| 6 | High | Yes | Average | Full | Yes |
| 7 | Low | Yes | The bad one | Partial | No |
| 8 | High | No | The bad one | Full | Yes |
| 9 | High | No | Average | Full | No |
| 10 | Low | Yes | The bad one | No | No |
| 11 | High | No | Good | Full | ? |

24.

A set of observations is given, divided into classes. Each observation has 4 signs. Based on these observations, it is necessary to calculate the receipt of a loan by the person number 11.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Surveillance Number | Stable income (A) | Debt-free (B) | Credit history(C) | Employment (D) | Approval (E) |
| 1 | High | yes | Good | Full | Yes |
| 2 | Low | No | Good | No | No |
| 3 | High | Yes | Average | Partial | No |
| 4 | High | No | The bad one | Full | Yes |
| 5 | Low | No | Average | Partial | No |
| 6 | High | Yes | Average | Full | Yes |
| 7 | Low | Yes | The bad one | Partial | No |
| 8 | High | No | The bad one | Full | Yes |
| 9 | High | Yes | Average | Full | No |
| 10 | Low | Yes | The bad one | No | No |
| 11 | Low | Yes | The bad one | Full | ? |

25.

A set of observations is given, divided into classes. Each observation has 4 signs. Based on these observations, it is necessary to calculate the receipt of a loan by the person number 11.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Surveillance Number | Stable income (A) | Debt-free (B) | Credit history(C) | Employment (D) | Approval (E) |
| 1 | High | yes | Good | Full | Yes |
| 2 | Low | No | Good | No | No |
| 3 | High | Yes | Average | Partial | No |
| 4 | High | No | Good | Full | Yes |
| 5 | Low | No | Average | Partial | No |
| 6 | High | Yes | Average | Full | Yes |
| 7 | Low | Yes | The bad one | Partial | No |
| 8 | High | No | The bad one | Partial | Yes |
| 9 | High | No | Average | Full | No |
| 10 | Low | Yes | The bad one | No | No |
| 11 | Low | No | Average | Partial | ? |

26.

A set of observations is given, divided into classes. Each observation has 4 signs. Based on these observations, it is necessary to calculate the receipt of a loan by the person number 11.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Surveillance Number | Stable income (A) | Debt-free (B) | Credit history(C) | Employment (D) | Approval (E) |
| 1 | High | yes | Good | Full | Yes |
| 2 | Low | No | Good | No | No |
| 3 | High | Yes | Average | Partial | No |
| 4 | High | No | The bad one | Full | Yes |
| 5 | Low | No | Average | Partial | No |
| 6 | High | Yes | Average | Full | Yes |
| 7 | Low | Yes | The bad one | Partial | No |
| 8 | High | Yes | The bad one | Full | Yes |
| 9 | High | No | Average | Full | No |
| 10 | Low | Yes | The bad one | No | No |
| 11 | High | Yes | Average | Full | ? |

27.

A set of observations is given, divided into classes. Each observation has 4 signs. Based on these observations, it is necessary to calculate the receipt of a loan by the person number 11.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Surveillance Number | Stable income (A) | Debt-free (B) | Credit history(C) | Employment (D) | Approval (E) |
| 1 | High | yes | Good | Full | Yes |
| 2 | Low | No | Good | No | No |
| 3 | High | Yes | Average | Partial | No |
| 4 | High | No | The bad one | Full | Yes |
| 5 | Low | No | Average | Partial | No |
| 6 | High | Yes | Average | Full | Yes |
| 7 | Low | Yes | The bad one | Partial | No |
| 8 | High | No | The bad one | Full | Yes |
| 9 | Low | No | Average | Full | No |
| 10 | Low | Yes | The bad one | No | No |
| 11 | High | Yes | Average | Full | ? |

28.

A set of observations is given, divided into classes. Each observation has 4 signs. Based on these observations, it is necessary to calculate the receipt of a loan by the person number 11.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Surveillance Number | Stable income (A) | Debt-free (B) | Credit history(C) | Employment (D) | Approval (E) |
| 1 | High | yes | Average | Full | Yes |
| 2 | Low | No | Good | No | No |
| 3 | High | Yes | Average | Partial | No |
| 4 | High | No | The bad one | Full | Yes |
| 5 | Low | No | Average | Partial | No |
| 6 | High | Yes | Average | Full | Yes |
| 7 | Low | Yes | The bad one | No | No |
| 8 | High | No | The bad one | Full | Yes |
| 9 | High | No | Average | No | No |
| 10 | Low | Yes | The bad one | No | No |
| 11 | High | Yes | Average | No | ? |

29.

A set of observations is given, divided into classes. Each observation has 4 signs. Based on these observations, it is necessary to calculate the receipt of a loan by the person number 11.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Surveillance Number | Stable income (A) | Debt-free (B) | Credit history(C) | Employment (D) | Approval (E) |
| 1 | High | yes | Good | Full | Yes |
| 2 | Low | No | Average | No | No |
| 3 | High | Yes | Average | Partial | No |
| 4 | High | No | The bad one | Full | Yes |
| 5 | Low | No | Average | Partial | No |
| 6 | Low | Yes | Average | Full | Yes |
| 7 | Low | Yes | The bad one | Partial | No |
| 8 | High | No | The bad one | Full | Yes |
| 9 | High | No | Average | Full | No |
| 10 | Low | Yes | The bad one | No | No |
| 11 | High | No | Average | Full | ? |

30.

A set of observations is given, divided into classes. Each observation has 4 signs. Based on these observations, it is necessary to calculate the receipt of a loan by the person number 11.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Surveillance Number | Stable income (A) | Debt-free (B) | Credit history(C) | Employment (D) | Approval (E) |
| 1 | High | yes | Good | Full | Yes |
| 2 | Low | No | Good | No | No |
| 3 | Low | Yes | Average | Partial | No |
| 4 | High | Yes | The bad one | Full | Yes |
| 5 | Low | No | Average | Full | No |
| 6 | High | Yes | Average | Full | Yes |
| 7 | Low | Yes | The bad one | Partial | No |
| 8 | High | Yes | The bad one | Full | Yes |
| 9 | High | No | Average | Full | No |
| 10 | Low | Yes | The bad one | Full | No |
| 11 | Low | No | The bad one | Full | ? |