X

(https://swayam.gov.in) (https://swayam.gov.in/nc_details/NPTEL)

d22180@students.iitmandi.ac.in

NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » Pattern Recognition And Application (course)

Click to register for Certification exam (https://examform.nptel.ac.in/2023_10/exam_form/dashboard)

If already registered, click to check your payment status

Course outline

How does an NPTEL online course work? ()

Week 0 ()

Week 1 ()

Lecture 01 : Introduction (unit?unit=17&lesson=18)

Lecture 02 : Feature

Week 1 : Assignment 1

Assignment not submitted **Due date: 2023-08-09, 23:59 IST.**

1) ***2 points***

Which of the following statement/(s) is/are correct?

a) Chain code is translation variant.
b) Chain code is rotation invariant.
c) Differential chain code is rotation invariant.
d) All of these.

- a)
- b)
- c)
- d)

2) ***2 points***

Which of the following feature corresponds to boundary based features?

I. Intensity
II. Chain code
III. Polygonal approximation
IV. Signature

a) Only I
b) Only I and IV
c) II, III and IV
d) All of these

- a)

b)
c)
d)

3) ***2 points***

For representation of a circle, radius and center are used features, then which of the following is/are correct?

a) Radius is translation invariant.
b) Center is translation variant
c) Radius and center both are translation invariant
d) Both a and b

a)
b)
c)
d)

4) ***2 points***

Which of the following is/are true?

I. In case of supervised learning, known patterns or labelled data are used for training purpose.
II. In case of unsupervised learning, additional step of data agglomeration is done based on similarity.

a) Only I
b) Only II
c) Both I and II
d) Neither I and II

a)
b)
c)
d)

5) ***2 points***

When two classes can be separated by a straight line, they are known as-

a) Linearly separable classes
b) Linearly inseparable classes
c) May depend on system, can be separable/inseparable
d) All of the above

a)
b)
c)
d)

6) ***2 points***

Given patterns: $P_1 = \langle 3,4,5,10 \rangle$, $P_2 = \langle 3,4,6,10 \rangle$, $P_3 = \langle 104,105,106,10 \rangle$. Which of the following statements is correct?

a) P_1 and P_2 are similar
b) P_1 and P_3 are similar
c) P_1 and P_2 are dis-similar
d) All of the above.

- a)
- b)
- c)
- d)

7) ***2 points***

Compute the chain code of the given structure in Figure 1 using the coded direction given in Figure 2. Assume 8-connectivity and moving in clockwise direction.

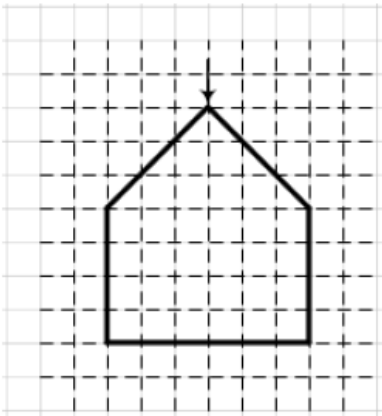

Figure 1

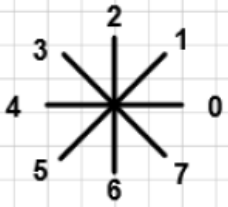

Figure 2

a) 77766644444442222111
b) 77776664444442222111
c) 77766664444442222111
d) 77766664444422222111

- a)
- b)
- c)
- d)

8) ***2 points***

Compute the differential code of the given structure in Figure 1 using the coded direction given in Figure 2. Assume 8-connectivity and moving in clockwise direction. For counting differential direction use anticlockwise direction.

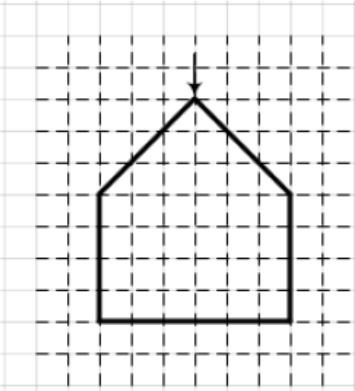

Figure 1

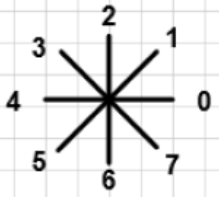

Figure 2

a) 60070006000006000700
b) 60007000600000600070
c) 60070006000006007000
d) 60070006000000600070

- a)
- b)
- c)
- d)

9) ***2 points***

Compute the shape number (largest number) using differential chain code of the given structure in Figure 1 using the coded direction given in Figure 2. Assume 8-connectivity and moving in clockwise direction. For counting differential direction use anticlockwise direction.

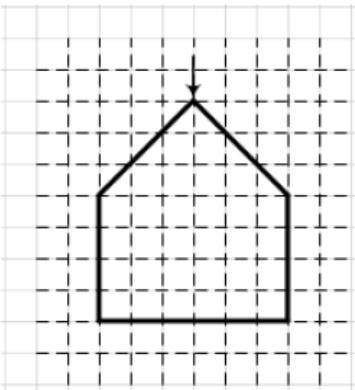

Figure 1

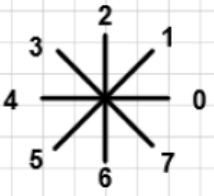

Figure 2

a) 70006000006000700600
b) 70060070000600000600
c) 70060070006000000000
d) 70060070006000006000

- a)
- b)
- c)

d)

10) **2 points**

Which of the following geometrical shape corresponds to the signature given in Figure 3?

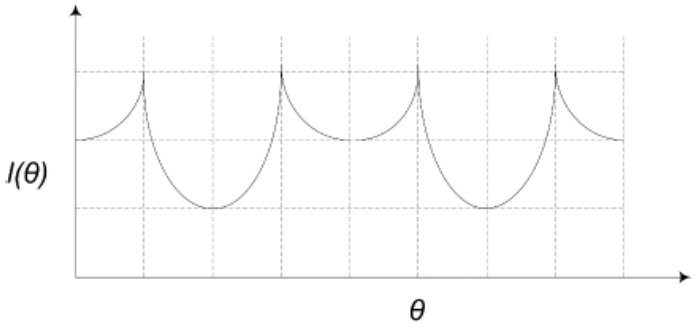

Figure 3

a) Circle
b) Square
c) Rectangle
d) Equilateral triangle

a)
b)
c)
d)

You may submit any number of times before the due date. The final submission will be considered for grading.

Submit Answers