Individual Practical

何长鸿 2016141482154

Practical 1

1.（a）

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Patient ID** | **Cholesterol** | **Diabetes** | **Body**  **Mass**  **Index**  **(BMI)** | **Actual Coronary**  **risk** | **Prediction** |
| **101** | 150 | No | 30 | Yes | no |
| **102** | 98 | No | 26 | No | no |
| **103** | 130 | Yes | 31 | Yes | yes |
| **104** | 101 | No | 27 | No | no |
| **105** | 120 | Yes | 28 | Yes | yes |
| **106** | 78 | Yes | 33 | No | no |
| **107** | 132 | No | 24 | Yes | no |
| **108** | 110 | Yes | 30 | No | no |
| **109** | 145 | No | 34 | No | yes |
| **110** | 96 | No | 26 | No | no |

Confusion matrix

|  |  |  |  |
| --- | --- | --- | --- |
|  | | Predict | |
| Positive | Negative |
| Actual | Positive | 2 (TP) | 2 (FN) |
| Negative | 1 (FP) | 5 (TN) |

(b)

Se = TP/(TP+FN) = 50%

Sp = TN/(TN+FP) = 83.3%

FPR = FP/(FP+TN) = 16.7%

FNR = FN/(FN+TP) = 50%

Practice 2

1.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | A1 | A2 | A3 | A4 | A5 |
| A1 | 0 |  | 18 | 25 | 20 |
| A2 |  | 0 | 25 |  |  |
| A3 |  |  | 0 | 13 | 2 |
| A4 |  |  |  | 0 |  |
| A5 |  |  |  |  | 0 |

2.

USE single-distance

(1) {A1} {A2,A4},{A3,A5}

(2) {{A1},{A3,A5}}, {A2,A4}

(3) {{{A1},{A3,A5}}, {A2,A4}}

A1 A2 A4 A3 A5