

Name:

UIN:

624 Sketch Recognition Quiz 7: October 8, 2014

1. (2 points) Compute the determinant for the following matrix: [4 3, 5 2]:
 $4 * 2 - 3 * 5 = -7$

2. (2 points) Compute the cofactor for the following matrix: [4 3, 5 2]:
[2, -5; -3,4]

3. (3 points) Compute the inverse of the following matrix [1 2 3, 0 4 5, 1 0 6]:
 $1/22(24 \mid -12 \mid -2; 5 \mid 3 \mid -5; -4 \mid 2 \mid 4)$

4. (3 points) Compute the inverse of the following matrix [4 0 0, 0 9 0, 0 0 25]:
 $1/22(24 \mid -12 \mid -2; 5 \mid 3 \mid -5; -4 \mid 2 \mid 4)$

Imagine that you have two classes male and female with the following data:

	age	height	length
male	30	68	2
female	32	62	8
stdev	10	3	5

Given the following equations:

$$w_{\hat{c}} = w_{\hat{c}0} + \sum_{i=1}^F w_{\hat{c}i} f_i \quad 0 \leq c < C \quad w_{\hat{c}j} = \sum_{i=1}^F (\Sigma^{-1})_{ij} \bar{f}_{\hat{c}i} \quad 1 \leq j \leq F \quad w_{\hat{c}0} = -\frac{1}{2} \sum_{i=1}^F w_{\hat{c}i} \bar{f}_{\hat{c}i}$$

5. (4 points) What is the equation for computing the value of fit for male?
 $Wma = 30/100; wmh = 68/9; Wml = 2/25; Wmo = -[30*30/100 + 68*68/9 + 4/25]/2$
 $vm = -[30*30/100 + 68*68/9 + 4/25]/2 + 30a/100 + 68*h/9 + 2*l/25.$

6. (4 points) What is the equation for computing the value of fit for female?
 $vf = -[32*32/100 + 62*62/9 + 8*8/25]/2 + 32*a/100 + 62*h/9 + 8*l/25.$

7. (2 points) What is the v_f and v_m for the data: age: 29, height 61, length: 6
 $vm = -[30*30/100 + 68*68/9 + 4/25]/2 + 30*29/100 + 68*61/9 + 2*6/25 = 208.6.$
 $vm = -261.47 + 30*29/100 + 68*61/9 + 2*6/25 = 208.6.$
 $vf = -[32*32/100 + 62*62/9 + 8*8/25]/2 + 32*29/100 + 62*61/9 + 8*6/25 = 211.46$
 $vf = -219.96 + 32*29/100 + 62*61/9 + 8*6/25 = 211.46$
female