

Course No: MAN 2303  
Course Title: Special Topics  
Date: 18/5/2014  
No. of Questions: (2)  
Time: 2 Hours  
Total Grade:

University of Palestine



First Semester 2013/2014


Instructor Name: Najwa Baraka  
College Name: Information  
Technology  
Dep. / Specialist: Management  
Information Systems  
Student No.:  
Student Name:

### Question One:

1. Fill the Following Comparisons Table

1	Clustering	Classification
2	Data Integration	Data transformation
3	Feature Selection	Sampling
4	Descriptive data mining	Predictive data mining
5	Tautology	Contradiction
8	Single Layer Perceptron	Multilayer Perceptron

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## Question Two:

2. Given the values { 3, 90, 42 , 2, 21 ,60, 18, 36}, Using one of the binning methods smooth the above data
3. **List** three methods to deal with missing values in data cleaning phase
4. **How** clustering can be used to detect outlier in a given data set

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5. Define the **learning algorithm**, then explain the three types of ANN learning algorithm

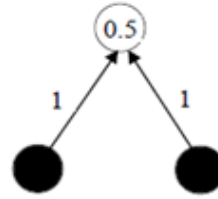
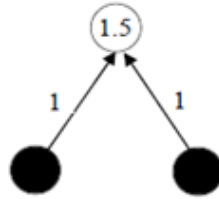
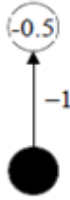
6. Suppose the range of attribute X is **-500 to 45** Using normalization by decimal scaling normalize both **-500 and 45**

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7. Based on the following ANNs implement NOT, AND, OR gates Respectively



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8. List the phases of data mining process

- Using Apriori algorithm generate all possible association rules from the following data set with  $\text{min support} = 2$  and  $\text{min confidence} = 70\%$

TID	items
T100	I1,I2,I5
T200	I2,I4
T300	I2,I3
T400	I1,I2,I4
T500	I1,I3
T600	I2,I3
T700	I1,I3
T800	I1,I2,I3,I5
T900	I1,I2,I3

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- Using K-NN algorithm , classify : $X_1 = 3$  and  $X_2 = 7$  according to the following data set, Suppose use  $K = 3$

$X_1$	$X_2$	Y
7	7	Cold
7	4	Cold
3	4	Hot
1	4	Hot

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- **Using K-means algorithm, cluster the following instances from the given data set, use  $k= 3$  and perform 2 iterations**

#	Point
A1	(2, 10)
A2	(2, 5)
A3	(8, 4)
A4	(5, 8)
A5	(7, 5)
A6	(6, 4)
A7	(1, 2)
A8	(4, 9)

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Best of Luck

"النجاح فى الحياة لا يأتى مصادفة... ولكنه نتيجة تخطيط وجهد، فإن اردت ان تتنبأ بمستقبلك فقم بينائه الآن... وكل نجاح عظيم بدأت شرارته الأولى بقرار" د. ابراهيم الفقي