East West University

Department of Computer Science and Engineering

CSE106 Discrete Mathematics

Mini-Project

CO: CO3, CO4
EP/EA: EP1, EP2
Cognitive Learning level: C3
Psychomotor Learning Level: P3
Affective Learning Level: A2

Mini Project:

1. Using C program, randomly generate a relational matrix with dimension n where n is the number of distinct elements on a set.
2. Verify the properties of the relation; such as symmetric, anti-symmetric, transitive and equivalence etc. Determine computational time in this step (except printing time) in milliseconds.
3. Using MATLAB or python, draw a graph showing computational time vs n dimension.
4. Theoretically, determine the computational time complexity of your program as a function of n and compare that with the time complexity found in step 3.
5. Give a 5-minute PowerPoint presentation on your mini-project.

Note: Each group will consist of 3 students.

Mark Distribution:

1.	Program accuracy and quality (Cognitive: C3):	3.0
2.	Report quality (Cognitive: C3):	1.0
3.	Report quality (Psychomotor – communication skill: P3):	0.5
4.	Presentation quality (Cognitive: C3):	4.0
5.	Presentation quality (Psychomotor – communication skill: P3):	0.5
6.	Presentation quality (Affective: A2):	0.5
7.	Question- answer (Affective: A2):	0.5
Total:		**10.0**