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 (which represent relation) 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. Check whether the relation represents any function or not. Determine computational time in this step (except printing time) in milliseconds.
4. Using Excel, draw a graph showing computational time vs n dimension.
5. Theoretically, determine the computational time complexity of your program as a function of n and compare that with the time complexity found in step 2 and 3.
6. Give a 5-minute Power Point 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**