DISCTRU T3 AY2016-17

Machine Project Specification

Description

Create a program that can be used to implement set operations.

The input of your program should be elements of two (2) sets. The universe of discourse of both sets is **Z**, the set of all integers. The elements of each set are entered one integer at a time separated by commas. A null set can be accepted by entering "{}" as input. The program will also ask for the operation that will be performed. Your program should be able to perform the following five (5) operations by inputting the operation code:

Operation Name	Operation Code	Operation
1. Union	U	$A \cup B$
2. Intersection	I	$A \cap B$
3. Difference	D	$A - B$
4. Cartesian Product	C	$A \times B$
5. Power Set	P	$P(A)$

The output of the program should be the resulting set of the specified operation. If an element entered is not part of the universe of discourse, the output should be "Invalid set".

Example:

Set A: **1,2,3,4,5** Set B: **3,4,5,6** Operation: **U** Output: **{1,2,3,4,5,6}**	Set A: **1,2,3,4,5** Set B: **{}** Operation: **D** Output: **{1,2,3,4,5}**	Set A: **1,2,3** Set B: **a,b,c** Operation: **C** Output: **Invalid set**

You may do this project by pairs or individually. You're free to use any programming language.

Deadline and Presentation

Submit code via google classroom by August 9, 11:59 pm

Presentations on August 10 during regular class hours

Order of presentation will be based on order of submission

Program presented cannot be edited after the stated submission deadline

Refer to the syllabus for grading criteria

Bonus points (max of 5 points) will be given to anything beyond the basic requirement stated above