

## Lab 1

1. Write a program that takes two or more sets as input and produces set operations like union, intersection, difference and symmetric difference as its output.
2. Write a program that takes two or more sets as input and produces their Cartesian product as output.
3. Write a program that takes a real number and produces its ceiling and floor integers as output.
4. Write a program that takes name and age of 5 persons as an input and gives the degree of membership of the person as its output according to the following membership functions.

- a. Degree of membership = 1 if age  $\leq 20$   
Degree of membership =  $(30 - \text{age})/10$  if age  $> 20$  and age  $\leq 30$   
Degree of membership = 0 if age  $> 30$
- b. Degree of membership = 1 if age  $\leq 15$   
Degree of membership =  $(35 - \text{age})/20$  if age  $> 15$  and age  $\leq 35$   
Degree of membership = 0 if age  $> 35$

Perform set operations according to rules of fuzzy sets, on these two sets.