FUZZY LOGIC LABORATORY, Assignment #2

1) The following two are discrete fuzzy sets.

$$X = \left\{\frac{0.4}{0} + \frac{0.5}{3} + \frac{0.1}{5} + \frac{0.7}{6} + \frac{0.9}{9} + \frac{0.3}{10}\right\}$$

$$Y = \left\{\frac{0.3}{0} + \frac{0.7}{3} + \frac{1}{5} + \frac{0}{6} + \frac{0.2}{9} + \frac{0.9}{10}\right\}$$

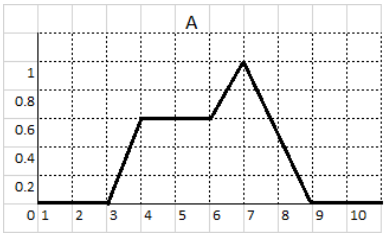
$$Z = \left\{\frac{0.1}{0} + \frac{0.9}{3} + \frac{0.4}{5} + \frac{1}{6} + \frac{0.4}{9} + \frac{0.6}{10}\right\}$$

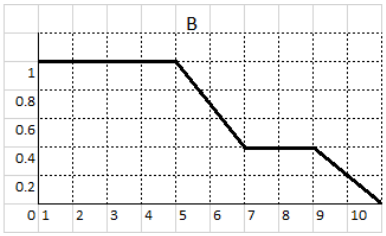
Using MATLAB,

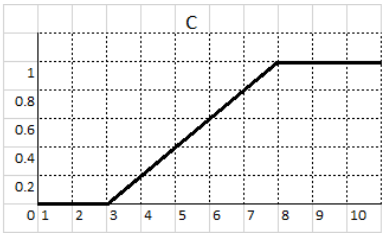
a. Plot X/(Y∪Z). (25 pts)

b. Plot (Z∩Y)/X. (25 pts)

2) The following three are continuous fuzzy sets.







Using MATLAB,

a. Plot A∩(B∪C). (25 pts)

b. Plot A∪($\overline{B}$∪C). (25 pts)

Hint: You may use `min, max, plot, stem, hold on, hold of, xlabel, ylabel` commands of MATLAB.

Helping Source: Textbook and supplementary material uploaded to DYS: http://enf.ogu.edu.tr/golddys/