8.

A → Students who know all students in Set B (Knows_All_Bloomington)

B → Students who live in Bloomington, make atleast 55 000 and have atleast one skill

A   B
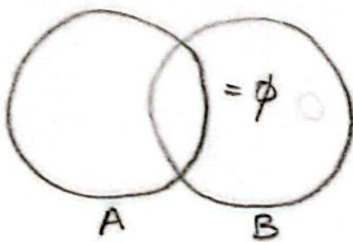
$B - A = \phi$

$\neg \exists x \ (x \in B - A)$

9.

A → All companies

B → companies that employ managers making less than or equal to 50 000

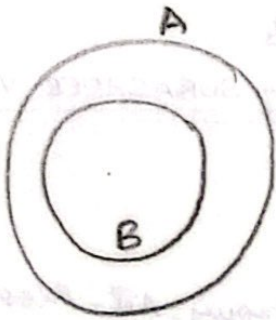All companies & no overlap with set B

A   B

$B - A = \phi$

$A \neq B$

$\forall x \ (x \in A \Rightarrow x \notin B)$

10.

A → Students known by a particular student
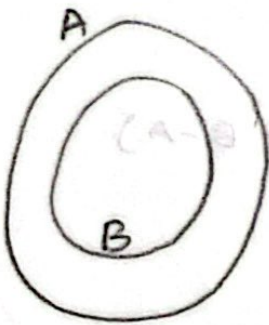
B → Students who have atmost two managers.

$$|A \cap B| \geq 3$$

$$\exists x_1, x_2, x_3 \in A \cap B$$
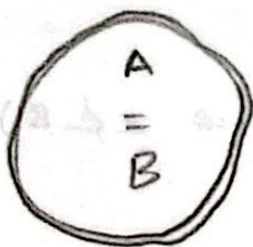
11. A → companies

B → companies that employ students with atleast two skills
(even count)

$$|A \cap B| \% 2 = 0$$

12. A → Students with a certain number of skills

B → Students with the same number of skills as another student

$$|A| = |B|$$

$$p_1, p_2 \in A \wedge p_1 \neq p_2$$