The consumption set is denoted by X. If x, $y \in X$, then x and y are potential consumption bundles. $x = (x_1, x_2, ..., x_n)$ where n is the number of goods and x_k is the quantity of good k in the consumer's consumption bundle. For consumer i, consumption set is denoted by X_i and a consumption bundle $x_i = (x_{i1}, x_{12}, ..., x_{in})$

1 Consumption Preference

A preference relation $\succeq$ is an ordering over the elements of X.
$x \succeq y$ means " x is atleast as good as y".
Strict preference($\succ$): $x \succ y$ means $x \succeq y$ and $y \not\succeq x$ i.e. "x is better than y"