

## Purging rule.

If  $S^{i+1}$  contains  $(P_j, w_j)$  and  $(P_k, w_k)$ ; these two pairs such as that  $P_j \leq P_k$  and  $w_j \geq w_k$  then  $(P_j, w_j)$  can be eliminated. This purging rule is also called as dominance rule. In short, remove the pair with less profit and more weight.

### Method:

- ① Create set  $S^i$  by not including the  $i^{th}$  ( $i+1$ )<sup>th</sup> element.
- ② Create set  $S_i^i$  by including the  $(i+1)^{th}$  element (i.e. add  $P_{i+1}, w_{i+1}$  to each of the tuple).
- ③ Create set  $S^{i+1}$  by taking union of  $S^i$  and  $S_i^i$ .
- ④ Apply Purging rule to  $S^{i+1}$ .
- ⑤ repeat ① - ④ till you get  $S^n$ .