

## Case – Network Diagram for ABC superMKT

ABC superMKT is one of the leading super market chains around the country. ABC superMKT currently has 200 branches in Sri Lanka. These super markets have been established in prominent locations in major cities where infrastructural facilities are available in plenty. All the 200 branches are currently linked to the head office which is located at Colombo.

In order to improve ABC superMKT's business and sales functions, the organizations has launched a project to introduce a "Sales Reporting System". Following are the activities, predecessors and its durations for this project.

ID	Activity Name	Predecessor	Optimistic (O)	Most likely (M)	Pessimistic (P)	Expected Duration
1	Gather Data	-	1	3	5	3
2	Study Feasibility	-	2	4	6	4
3	Interview users	1, 2	1	1	1	1
4	Define user requirements	3	3	5	7	5
5	Prepare system analysis report	3	4	8	12	8
6	Input & output	4	3	5	7	5
7	Processing & Database	5, 6	1	1	1	1
8	Evaluation	7	4	8	12	8
9	Software development	7	5	10	15	10
10	Unit Testing	8, 9	1	2	3	2
11	User Acceptance Testing	10	4	6	8	6
12	Training	10	2	4	6	4
13	System conversion	10	1	4	7	4
14	Prepare implementation report	11, 12, 13	5	6	7	6

Questions:

1. Calculate the Expected Duration.
2. Draw a Network Diagram for the above activities in the ABC superMKT.  
(Mention your assumptions if any. Draw clearly using landscape orientation of the paper. Only mention the activity ID on the node).
3. Identify ES, EF, LS, LF and Float for each node in this diagram.
4. Identify the Critical Path (CP) of the project.