1) You receive the following table regarding an upcoming project that your company will be undertaking.

a) Draw the CPM model, fill in the table and identify the critical path(s).

b) Which activities would you crash and what would be the total crashing costs necessary to shorten the project by 7 weeks? Explain your reasoning.

c) What happens to the critical path(s)?

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Activity | Duration (weeks) | Predecessors (FS) | Crashing Costs (k€/Week) | Maximum crashing time (weeks) | ES | EF | LS | LF | TF | Crash Weeks | Crash Cost (€) |
| Start | 0 |  | - | - |  |  |  |  |  |  |  |
| A | 3 | Start | 1 | 1 |  |  |  |  |  |  |  |
| B | 6 | Start | 2 | 2 |  |  |  |  |  |  |  |
| C | 8 | B | 2 | 2 |  |  |  |  |  |  |  |
| D | 7 | A | 3 | 1 |  |  |  |  |  |  |  |
| E | 12 | B | 4 | 3 |  |  |  |  |  |  |  |
| F | 8 | C,D | 4 | 2 |  |  |  |  |  |  |  |
| G | 15 | F | 5 | 5 |  |  |  |  |  |  |  |
| H | 4 | E | 6 | 1 |  |  |  |  |  |  |  |
| Finish | 0 | G,H | - | - |  |  |  |  |  |  |  |

2) Explain the scrum methodology and the key roles that make it work, including each role’s responsibilities.