UNIT II

Project Planning

Project planning is a discipline addressing how to complete a project in a certain timeframe, usually with defined stages and designated resources. One view of project planning divides the activity into these steps:

- setting measurable objectives
- identifying deliverables
- scheduling
- planning tasks

Why is project planning important?

Project planning is important at every phase of a project. It lays out the basics of a project, including the following:

- scope
- objectives
- goals
- schedule

What are the components of a project plan?

The three major parts of a project plan are the scope, budget and timeline. They involve the following aspects:

- **Scope:-** The scope determines what a project team will and will not do. It takes the team's vision, what stakeholders want and the customer's requirements and then determines what's possible. As part of defining the project scope, the project manager must set performance goals.
- **Budget:-** Project managers look at what manpower and other resources will be required to meet the project goals to estimate the project's cost.
- **Timeline:-** This reveals the length of time expected to complete each phase of the project and includes a schedule of milestones that will be met.

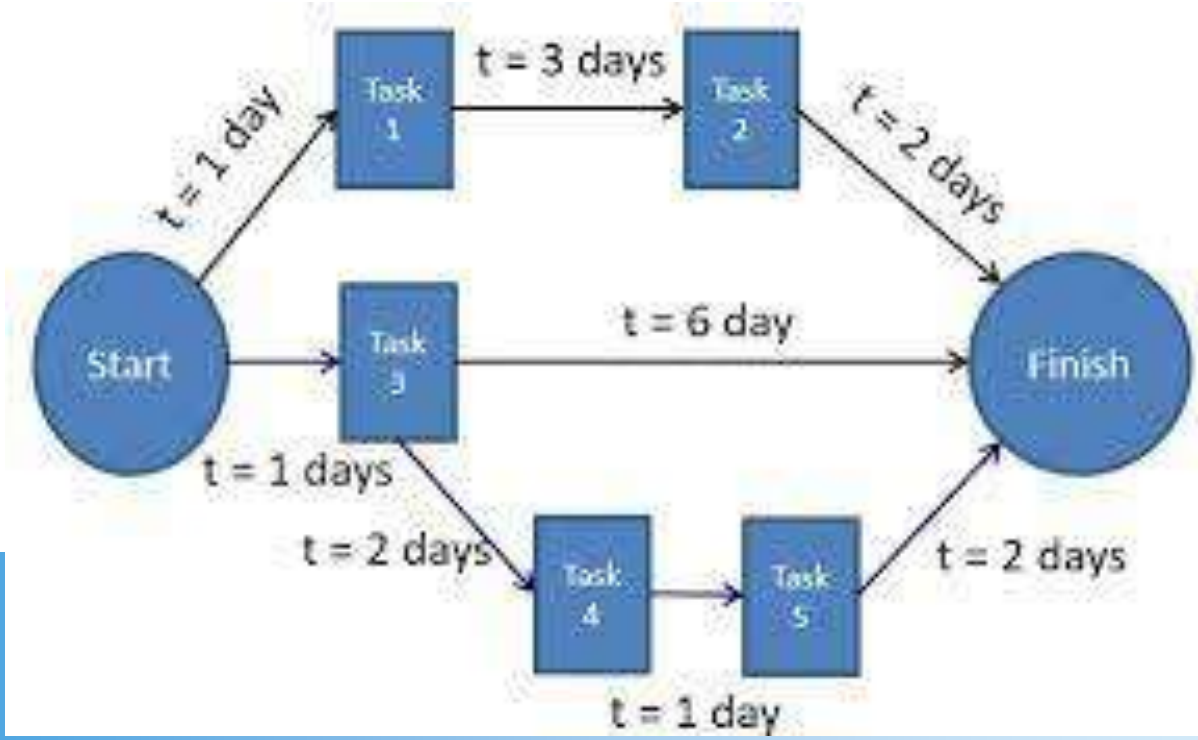
7 Steps of Project Planning

1. Goals and project objectives
2. Success metrics
3. Stakeholders and roles
4. Scope and budget
5. Milestones, deliverables, and project dependencies
6. Timeline and schedule
7. Communication plan

Program Evaluation Review Technique (PERT)

PERT is a project management planning tool used to calculate the amount of time it will take to realistically finish a project.

PERT charts are used to plan tasks within a project — making it easier to schedule deliverables and coordinate with team members.



Gantt Chart

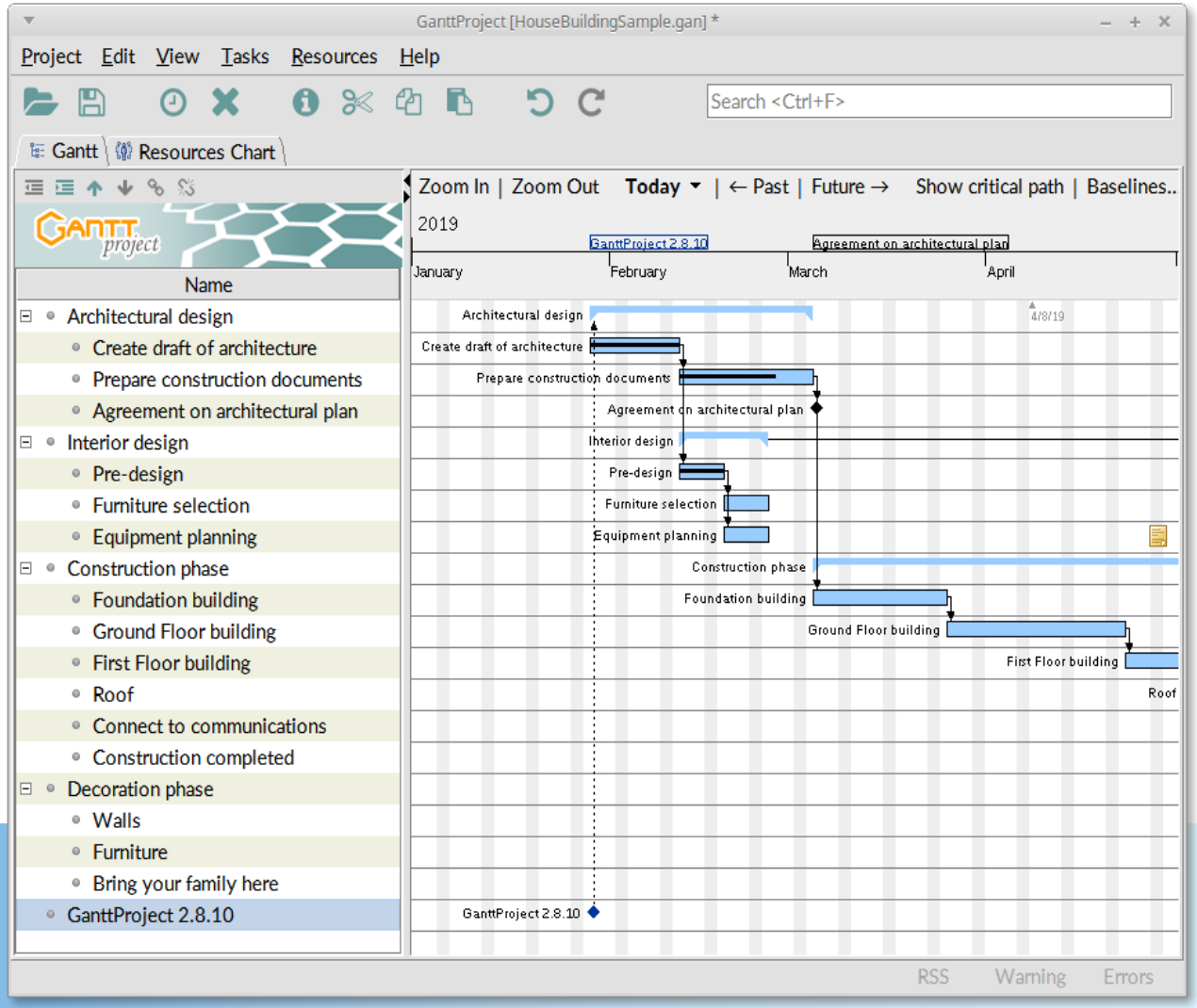
- A Gantt chart is a project management chart that allows project managers to create a project schedule.
- It shows the order in which project tasks will be completed, when they're due, their duration among other details.
- Every Gantt chart has two main parts, a grid or task list on the left side and a project timeline on the right.

A Gantt chart is a well-known bar chart and an excellent project management tool used to work with tasks, develop project plans, schedule, and track progress.

This chart gives you a clear visual image in a single document of all the tasks in the project, their sequence on a timeline, milestones, their start and end dates, deadlines, and a general overview of how the project evolves. Everyone throughout the project can easily understand where the team is, what has been done so far, what is still pending, and what is the status of project completion.

Gantt Project

GanttProject is a project management software designed to help businesses create schedules, assign tasks and resources, view project status reports and more.

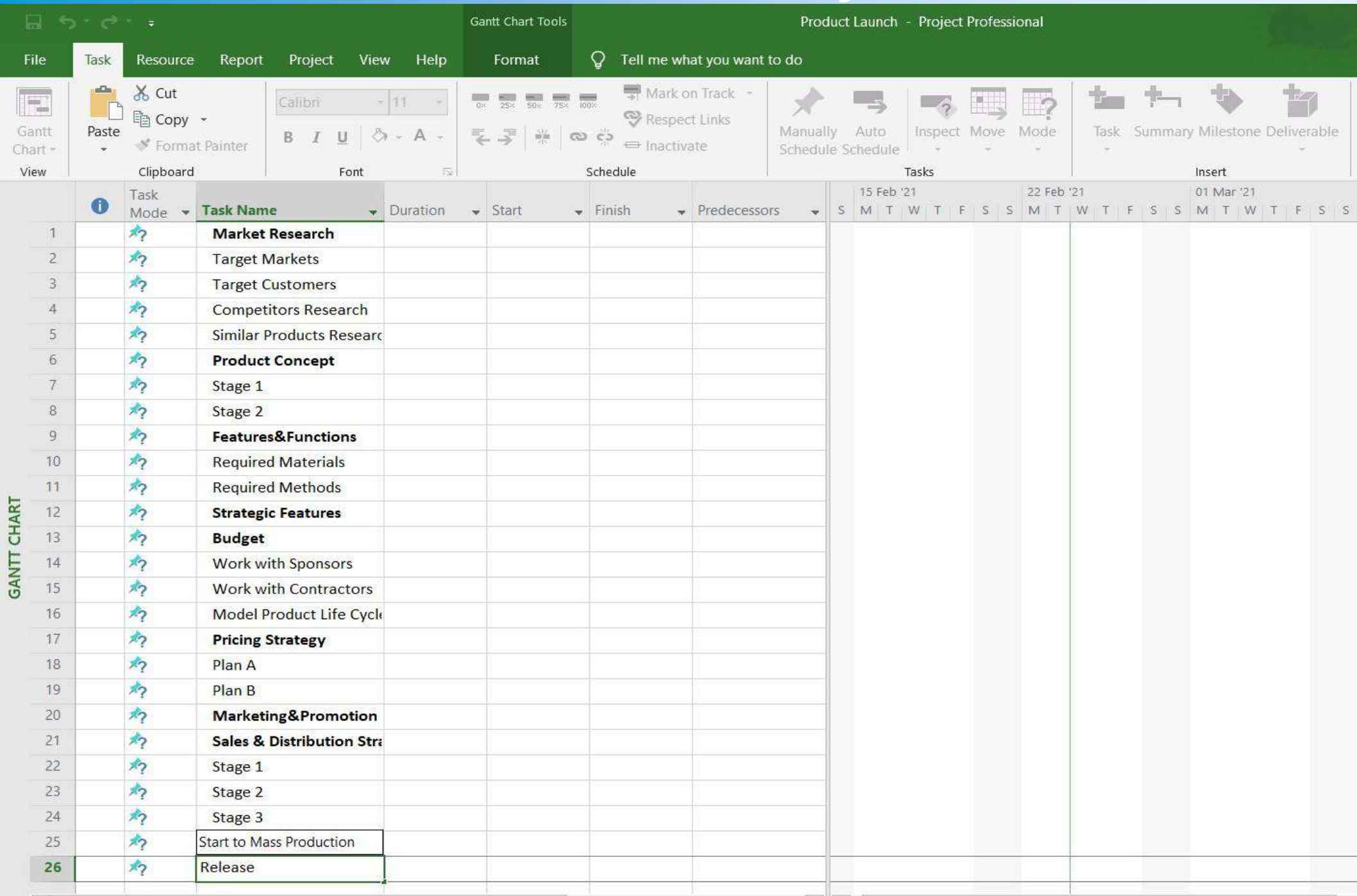


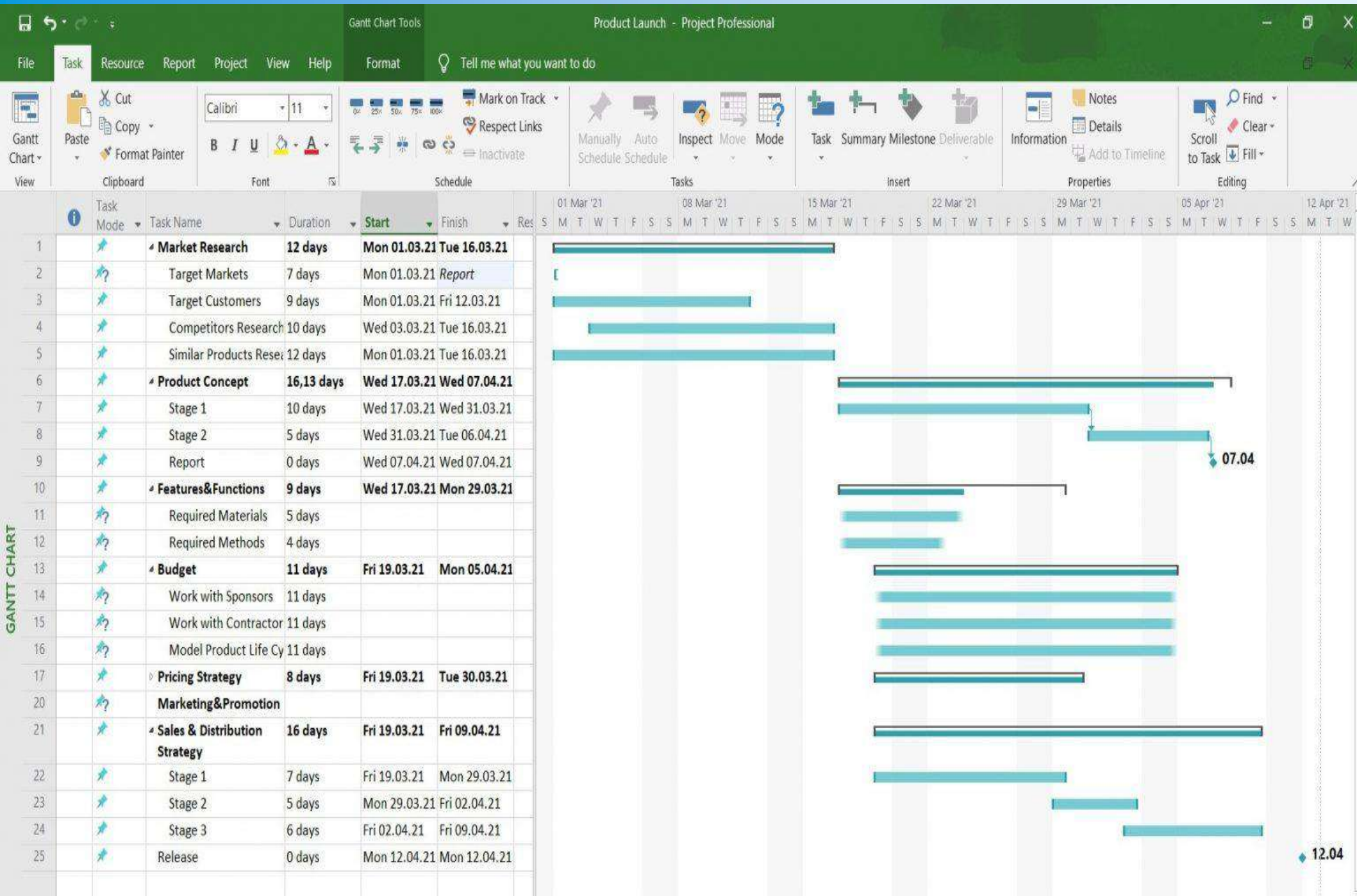
Microsoft's project management sw

Microsoft Project is a project management tool designed for managing project dependencies and costs effectively, streamlining tasks, and allocating resources.

Microsoft's project management software comes with an Excel-like interface, making it easy to navigate for those who are used to the application.

Microsoft Project





	Task Mode	Task Name	Duration	Start	Finish
1		**Market Research**	**12 days**	**Mon 01.03.21**	**Tue 16.03.21**
2		Target Markets	7 days	Mon 01.03.21	*Report*
3		Target Customers	9 days	Mon 01.03.21	Fri 12.03.21
4		Competitors Research	10 days	Wed 03.03.21	Tue 16.03.21
5		Similar Products Resea	12 days	Mon 01.03.21	Tue 16.03.21
6		**Product Concept**	**16,13 days**	**Wed 17.03.21**	**Wed 07.04.21**
7		Stage 1	10 days	Wed 17.03.21	Wed 31.03.21
8		Stage 2	5 days	Wed 31.03.21	Tue 06.04.21
9		Report	0 days	Wed 07.04.21	Wed 07.04.21
10		**Features&Functions**	**9 days**	**Wed 17.03.21**	**Mon 29.03.21**
11		Required Materials	5 days		
12		Required Methods	4 days		
13		**Budget**	**11 days**	**Fri 19.03.21**	**Mon 05.04.21**
14		Work with Sponsors	11 days		
15		Work with Contractor	11 days		
16		Model Product Life Cy	11 days		
17		**Pricing Strategy**	**8 days**	**Fri 19.03.21**	**Tue 30.03.21**
20		**Marketing&Promotion**			
21		**Sales & Distribution Strategy**	**16 days**	**Fri 19.03.21**	**Fri 09.04.21**
22		Stage 1	7 days	Fri 19.03.21	Mon 29.03.21
23		Stage 2	5 days	Mon 29.03.21	Fri 02.04.21
24		Stage 3	6 days	Fri 02.04.21	Fri 09.04.21
25		Release	0 days	Mon 12.04.21	Mon 12.04.21

Premavera Project Management sw

Oracle Primavera P6 is a project, program and portfolio management tool that's used for planning, managing and executing your project work.

Primavera is an enterprise project portfolio management software.

It includes project management, scheduling, risk analysis, opportunity management, resource management, collaboration and control capabilities, and integrates with other enterprise software such as Oracle and SAP’s ERP systems.

Primavera was launched in 1983 by Primavera

Primavera P6 Professional R16.1 : WELLMONT-1 - B2-3 (Wellmont Substation)

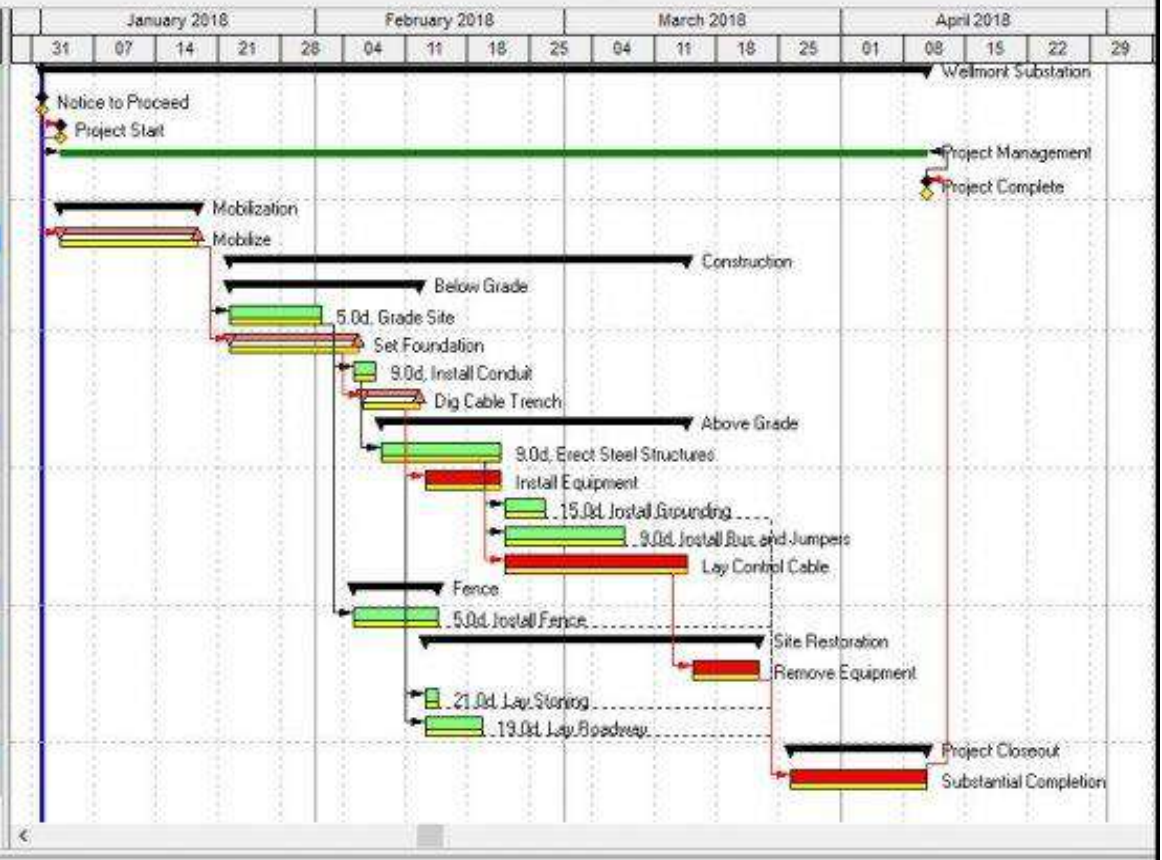
File Edit View Project Enterprise Tools Admin Help

Activities

Projects | Activities | Resources

Layout: Standard Layout | Filter: All Activities

Activity ID	Activity Name	Auto Compute Actuals	Original Duration	Start	Finish
Wellmont Substation			58.0d	01-Jan-2018	10-Apr-2018
W1000	Notice to Proceed	☑	0.0d	01-Jan-2018	
W1010	Project Start	☑	0.0d	03-Jan-2018	
W1020	Project Management	☐	56.0d	03-Jan-2018	10-Apr-2018
W1030	Project Complete	☑	0.0d		10-Apr-2018
Mobilization			10.0d	03-Jan-2018	18-Jan-2018
W1040	Mobilize	☐	10.0d	03-Jan-2018	18-Jan-2018
Construction			31.0d	22-Jan-2018	14-Mar-2018
Below Grade			13.0d	22-Jan-2018	12-Feb-2018
W1050	Grade Site	☐	8.0d	22-Jan-2018	01-Feb-2018
W1060	Set Foundation	☑	9.0d	22-Jan-2018	05-Feb-2018
W1070	Install Conduit	☐	3.0d	05-Feb-2018	07-Feb-2018
W1080	Dig Cable Trench	☐	4.0d	06-Feb-2018	12-Feb-2018*
Above Grade			20.0d	08-Feb-2018	14-Mar-2018
W1090	Erect Steel Structures	☐	8.0d	08-Feb-2018	21-Feb-2018
W1100	Install Equipment	☐	6.0d	13-Feb-2018	21-Feb-2018
W1110	Install Grounding	☐	2.0d	22-Feb-2018	26-Feb-2018
W1120	Install Bus and Jumpers	☐	8.0d	22-Feb-2018	07-Mar-2018
W1130	Lay Control Cable	☐	12.0d	22-Feb-2018	14-Mar-2018
Fence			7.0d	05-Feb-2018	14-Feb-2018
W1140	Install Fence	☐	7.0d	05-Feb-2018	14-Feb-2018*
Site Restoration			23.0d	13-Feb-2018	22-Mar-2018
W1150	Remove Equipment	☐	5.0d	15-Mar-2018	22-Mar-2018
W1160	Lay Stoning	☐	2.0d	13-Feb-2018	14-Feb-2018
W1170	Lay Roadway	☐	4.0d	13-Feb-2018	19-Feb-2018
Project Closeout			10.0d	26-Mar-2018	10-Apr-2018
W1180	Substantial Completion	☐	10.0d	26-Mar-2018	10-Apr-2018

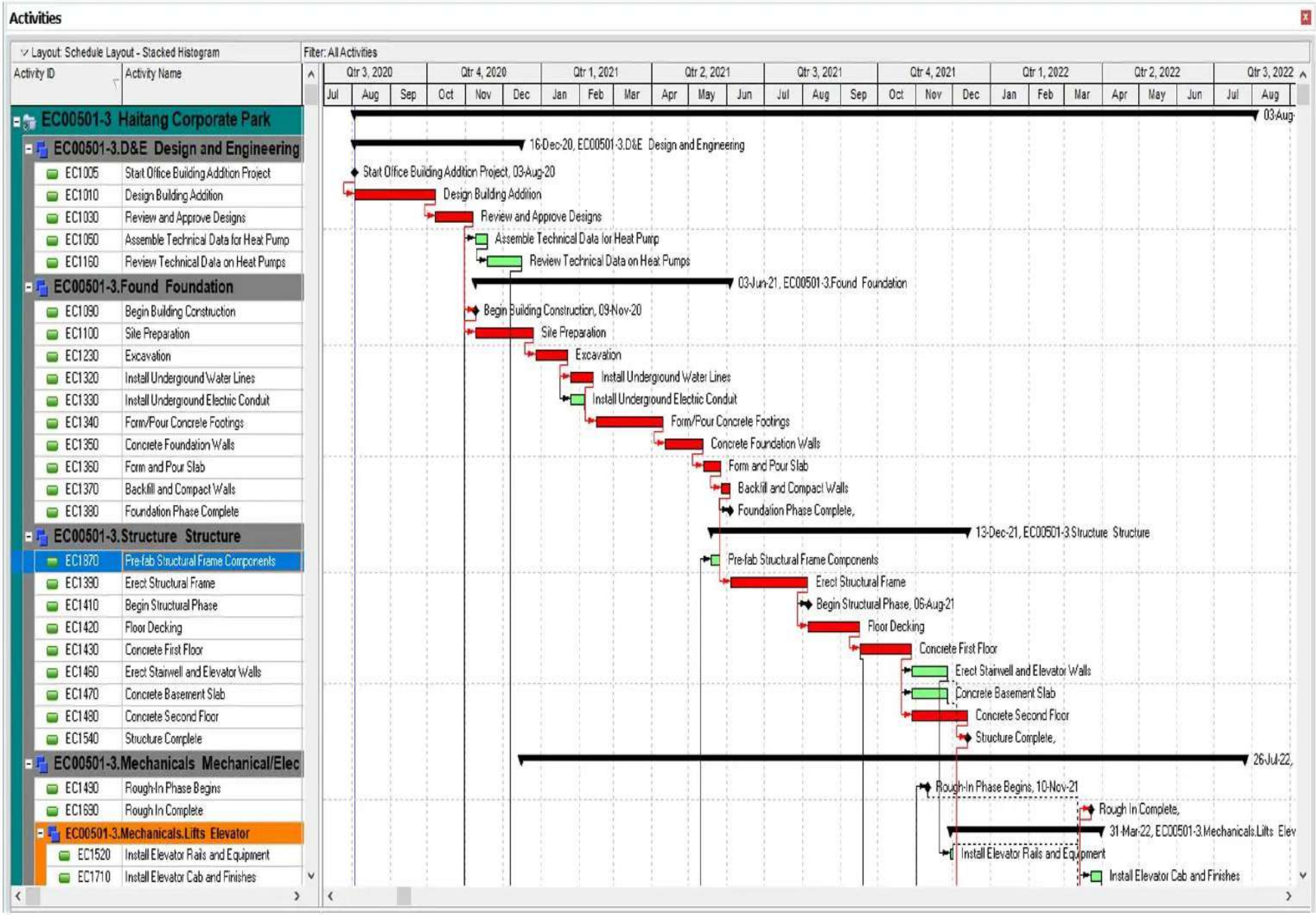


General | Status | Expenses | Predecessors | Successors | Relationships | Resources | Steps

Activity: W1040 Mobilize

Role	Resource ID Name	Auto Compute Actuals	Original Duration	Budgeted Units	Actual Units	Budgeted Units / Time	Remaining Units / Time	Remaining Units	Budgeted Cost	Actual Cost
CABLE.Cable Splicer	CABLE.Cable Splicer	☑	10.0d	100.0h	0.0h	10.0h/d	10.0h/d	100.0h	$5,000.00	$0.00
GROUND.Groundman	GROUND.Groundman	☑	10.0d	200.0h	0.0h	20.0h/d	20.0h/d	200.0h	$13,000.00	$0.00
HEO.Heavy Equipment Operator	HEO.Heavy Equipment Operator	☑	10.0d	100.0h	0.0h	10.0h/d	10.0h/d	100.0h	$7,000.00	$0.00
LINEMAN.Lineman	LINEMAN.Lineman	☑	10.0d	200.0h	0.0h	20.0h/d	20.0h/d	200.0h	$16,000.00	$0.00

Add Resource | Add Role | Assi


Activities
Layout: Schedule Layout - Stacked Histogram
Filter: All Activities
Activity ID
Activity Name
Qtr 3, 2020
Qtr 4, 2020
Qtr 1, 2021
Qtr 2, 2021
Qtr 3, 2021
Qtr 4, 2021
Qtr 1, 2022
Qtr 2, 2022
Qtr 3, 2022
Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug
EC00501-3 Haitang Corporate Park
EC00501-3.D&E Design and Engineering
EC1005 Start Office Building Addition Project
EC1010 Design Building Addition
EC1030 Review and Approve Designs
EC1050 Assemble Technical Data for Heat Pump
EC1160 Review Technical Data on Heat Pumps
EC00501-3.Found Foundation
EC1090 Begin Building Construction
EC1100 Site Preparation
EC1230 Excavation
EC1320 Install Underground Water Lines
EC1330 Install Underground Electric Conduit
EC1340 Form/Pour Concrete Footings
EC1350 Concrete Foundation Walls
EC1360 Form and Pour Slab
EC1370 Backfill and Compact Walls
EC1380 Foundation Phase Complete
EC00501-3.Structure Structure
EC1870 Pre-fab Structural Frame Components
EC1390 Erect Structural Frame
EC1410 Begin Structural Phase
EC1420 Floor Decking
EC1430 Concrete First Floor
EC1460 Erect Stairwell and Elevator Walls
EC1470 Concrete Basement Slab
EC1480 Concrete Second Floor
EC1540 Structure Complete
EC00501-3.Mechanicals Mechanical/Elec
EC1490 Rough-In Phase Begins
EC1690 Rough In Complete
EC00501-3.Mechanicals.Lifts Elevator
EC1520 Install Elevator Rails and Equipment
EC1710 Install Elevator Cab and Finishes
03-Aug-
16-Dec-20, EC00501-3.D&E Design and Engineering
Start Office Building Addition Project, 03-Aug-20
Design Building Addition
Review and Approve Designs
Assemble Technical Data for Heat Pump
Review Technical Data on Heat Pumps
03-Jun-21, EC00501-3.Found Foundation
Begin Building Construction, 09-Nov-20
Site Preparation
Excavation
Install Underground Water Lines
Install Underground Electric Conduit
Form/Pour Concrete Footings
Concrete Foundation Walls
Form and Pour Slab
Backfill and Compact Walls
Foundation Phase Complete,
13-Dec-21, EC00501-3.Structure Structure
Pre-fab Structural Frame Components
Erect Structural Frame
Begin Structural Phase, 06-Aug-21
Floor Decking
Concrete First Floor
Erect Stairwell and Elevator Walls
Concrete Basement Slab
Concrete Second Floor
Structure Complete,
26-Jul-22,
Rough-In Phase Begins, 10-Nov-21
Rough In Complete,
31-Mar-22, EC00501-3.Mechanicals.Lifts Elev
Install Elevator Rails and Equipment
Install Elevator Cab and Finishes

Objectives of Activities Planning

1. Feasibility Assessment
2. Reseource Allocation
3. Detailed Costing
4. Motivation
5. Co-ordination

Project Schedules

1. Ideal Activity Plans
2. Activity Risk Analysis
3. Resource Allocation
4. Schedule Production

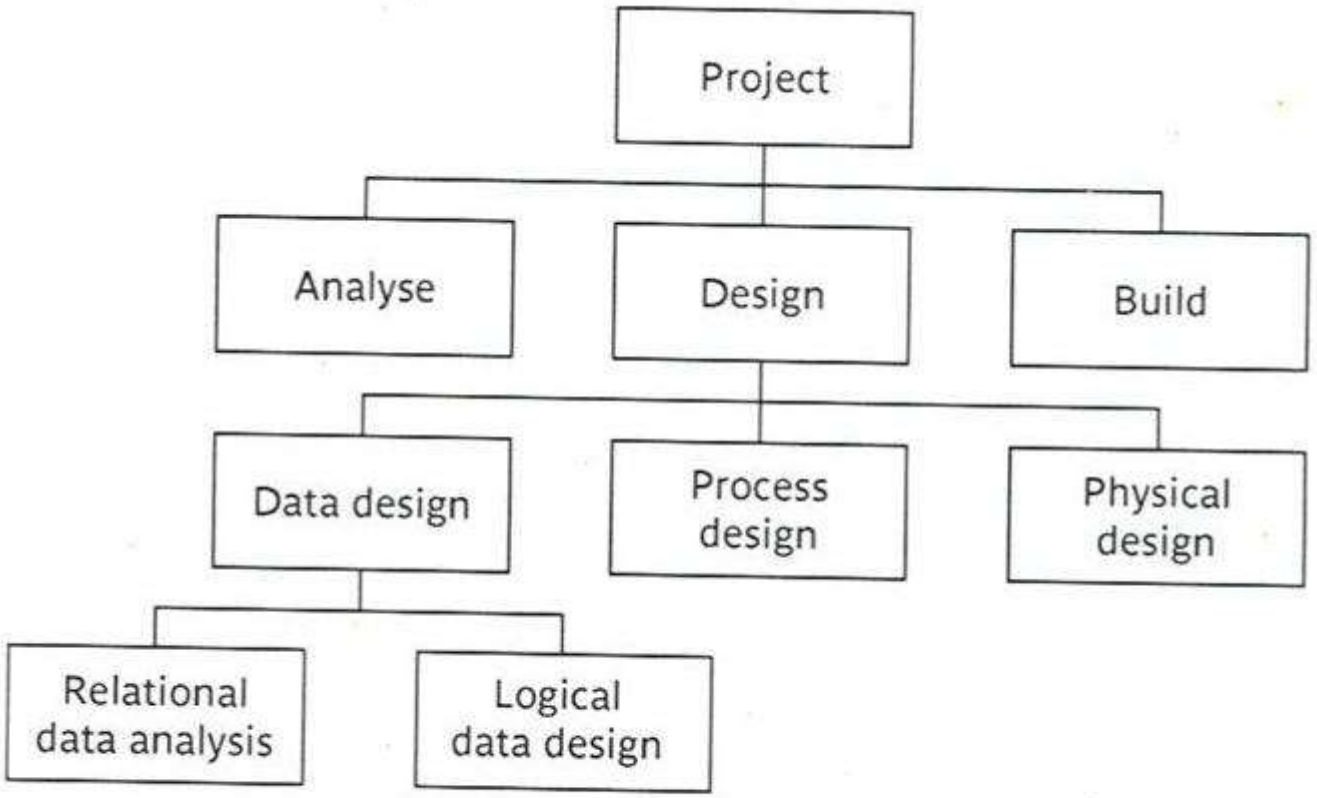
Activities

Three Approaches:-

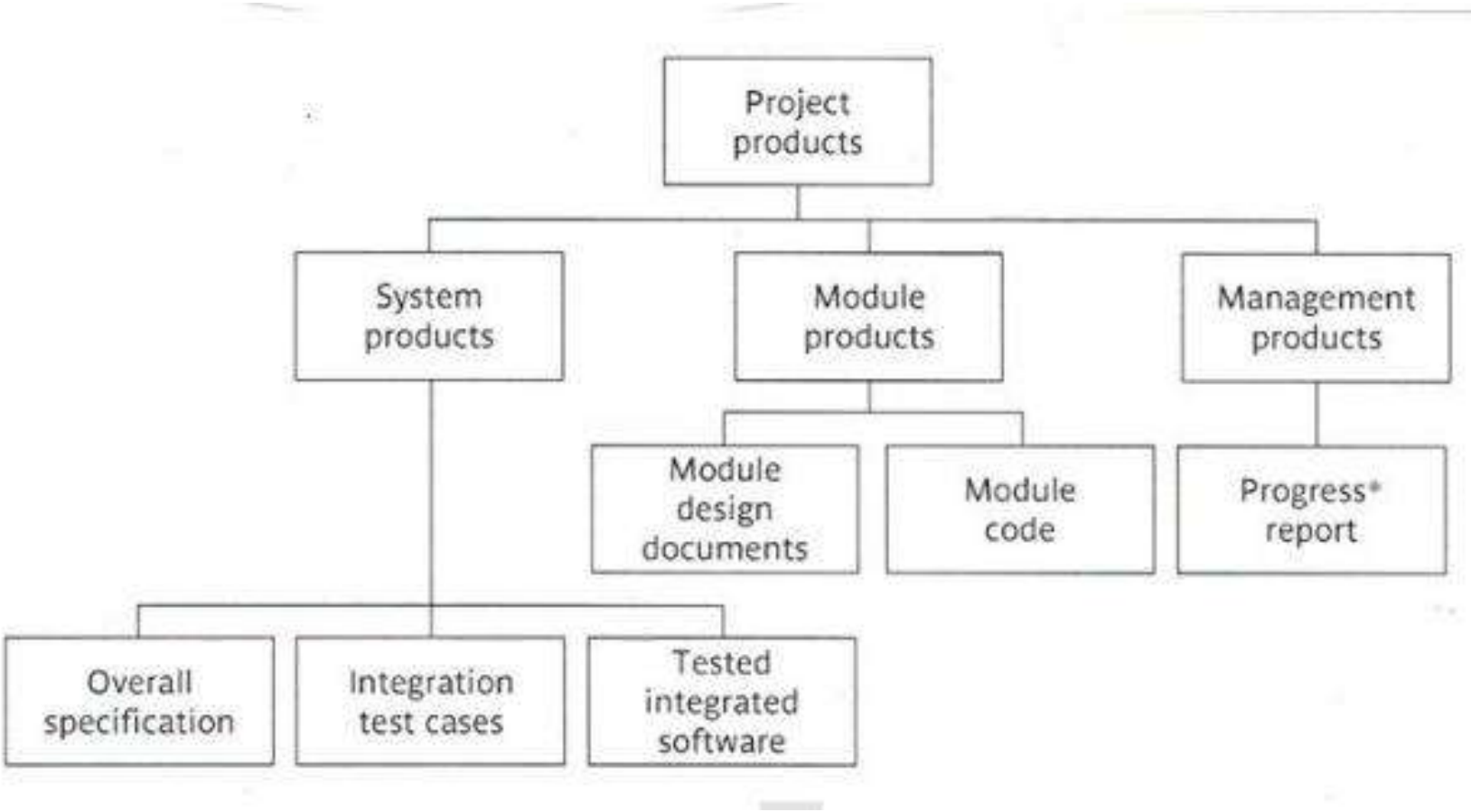
1. The Activity Based Approach
2. Product Based Approach
3. The Hybrid Approach

The Activity Based Approach

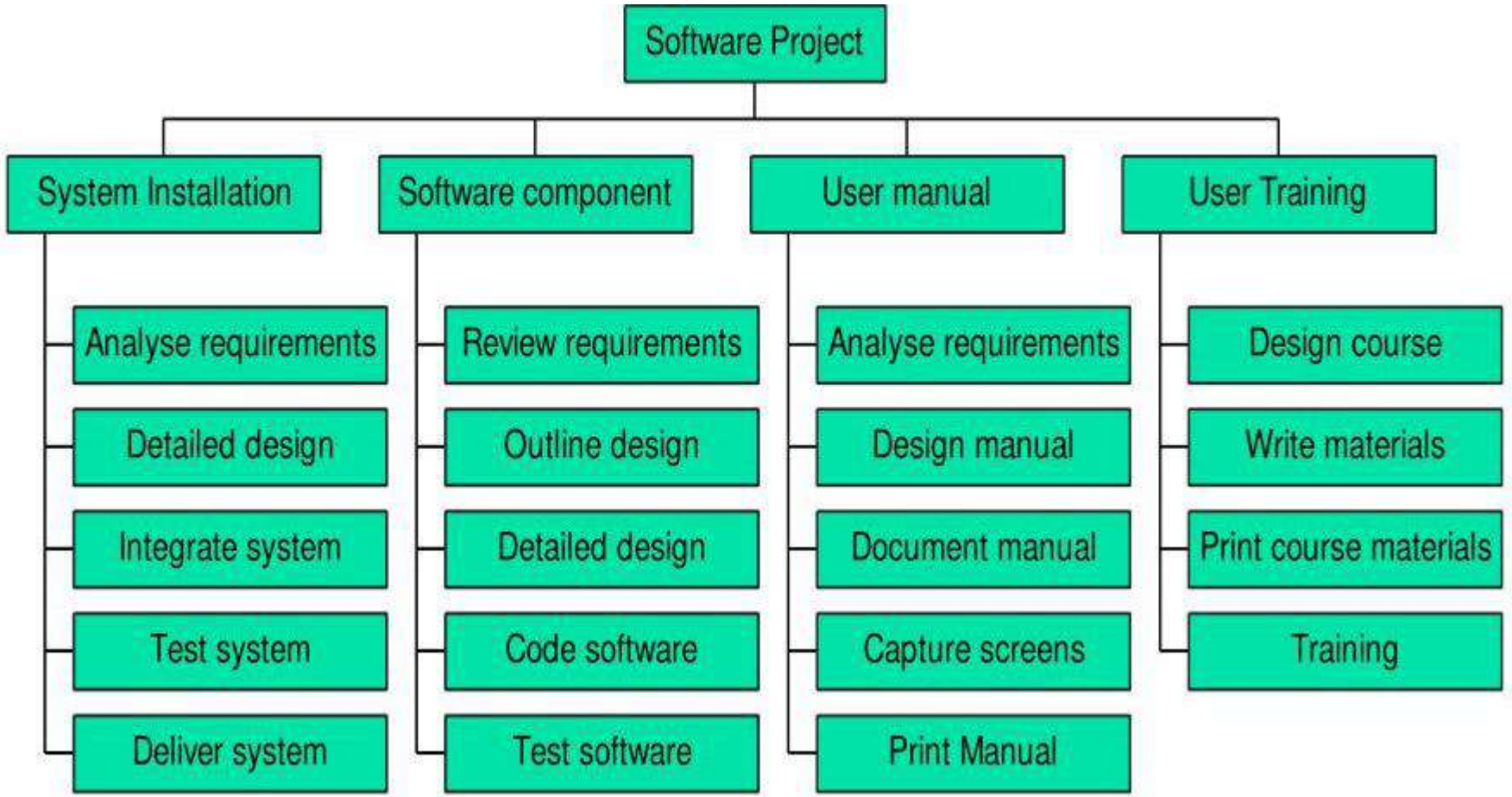
- WBS



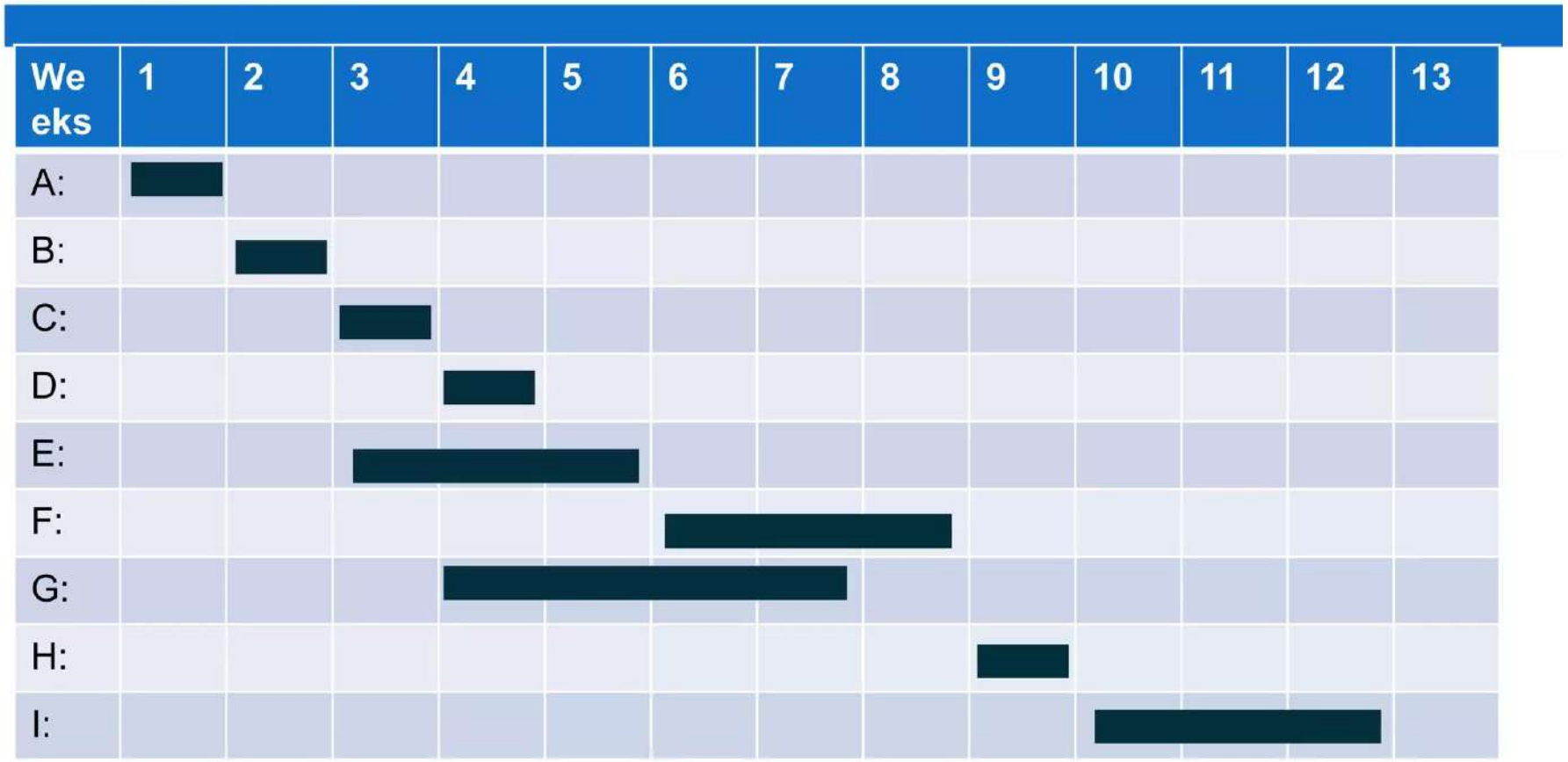
Product Based Approach



Hybrid Approach



Sequencing and Scheduling



A: Overall Design
B: Specify Module 1
C: Specify Module 2
D: Specify Module 3
E:Code Module 1
F:Code Module 3
G:Code Module 2
H:Integration Testing
I: System Testing