1. What are the triple constraints?

Scope, Cost, Time. ✓

2. What are the 49 Project Management Processes? Using a table.

The following table contains the 10 knowledge areas and the 49 processes:

PROCESS GROUP AND KNOWLEDGE AREA MAPPING

Knowledge Areas	Project Management Process Groups				
	Initiating	Planning	Executing	Monitoring and Controlling	Closing
4. Project Integration Management	4.1 Develop Project Charter	4.2 Develop Project Management Plan	4.3 Direct and Manage Project Work 4.4 Manage Project Knowledge	4.5 Monitor and Control Project Work 4.6 Perform Integrated Change Control	4.7 Close Project or Phase
5. Project Scope Management		5.1 Plan Scope Management 5.2 Collect Requirements 5.3 Define Scope 5.4 Create WBS		5.5 Validate Scope 5.6 Control Scope	
6. Project Schedule Management		6.1 Plan Schedule Management 6.2 Define Activities 6.3 Sequence Activities 6.4 Estimate Activity Durations 6.5 Develop Schedule		6.6 Control Schedule	
7. Project Cost Management		7.1 Plan Cost Management 7.2 Estimate Costs 7.3 Determine Budget		7.4 Control Costs	
8. Project Quality Management		8.1 Plan Quality Management	8.2 Manage Quality	8.3 Control Quality	
9. Project Resource Management		9.1 Plan Resource Management 9.2 Estimate Activity Resources	9.3 Acquire Resources 9.4 Develop Team 9.5 Manage Team	9.6 Control Resources	
10. Project Communications Management		10.1 Plan Communications Management	10.2 Manage Communications	10.3 Monitor Communications	
11. Project Risk Management		11.1 Plan Risk Management 11.2 Identify Risks 11.3 Perform Qualitative Risk Analysis 11.4 Perform Quantitative Risk Analysis 11.5 Plan Risk Responses	11.6 Implement Risk Responses	11.7 Monitor Risks	
12. Project Procurement Management		12.1 Plan Procurement Management	12.2 Conduct Procurements	12.3 Control Procurements	
13. Project Stakeholder Management	13.1 Identify Stakeholders	13.2 Plan Stakeholder Engagement	13.3 Manage Stakeholder Engagement	13.4 Monitor Stakeholder Engagement	

3. What are 8 project management techniques

(1)risk register ✓

(2)product backlog

(3)WBS

(4)Gantt charts

(5)network diagrams

(6)critical path analysis

(7)critical chain sheduling

(8)earned value management

4. difference between scrum and waterfall (at least 5 difference)

Scrum	Waterfull
Scrum can have multiple releases	Waterfull has only one release
Scrum keeps cutomers informed about every step during project development	Waterfull only contacts cutomers at the delivery date
Scrum welcomes changes of requirements at early and late stages of the project	Waterfull welcomes changes only at requirement phase and making changes are not allowed at late stages
Scrum divides work into sprints and then assign work within team members	Water divides work into stages(phases) and process continues one after another
Scrum works well for difficult and complex projects, in which requirements are not entirely clear before development	Waterfull model works well with smaller projects, in which requirements are clear before development
Scrum development saves time and money by reviewing regular sprints in the development process	Waterfull model may take extra time as reviewing is done at the result only

5. difference project phase and 5 project management process groups.

project phase: starting the project

organizing and preparing

carrying out the work

closing the project

project management process groups:

initiating process group

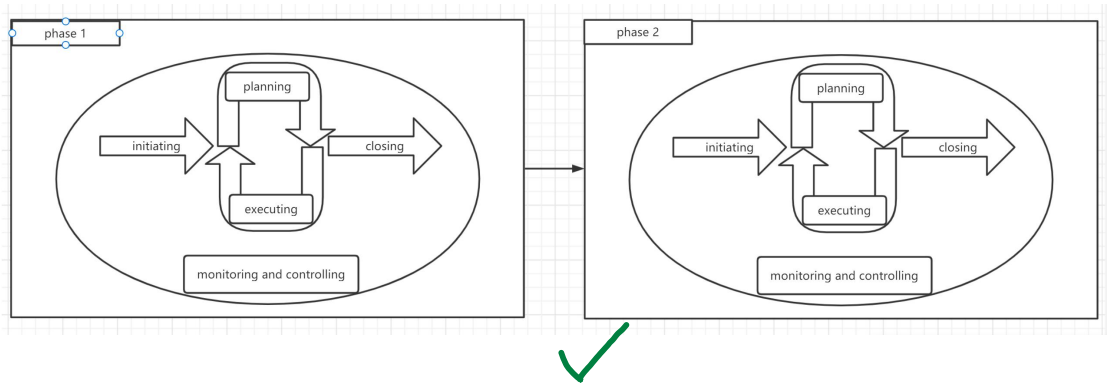
planning process group

executing process group

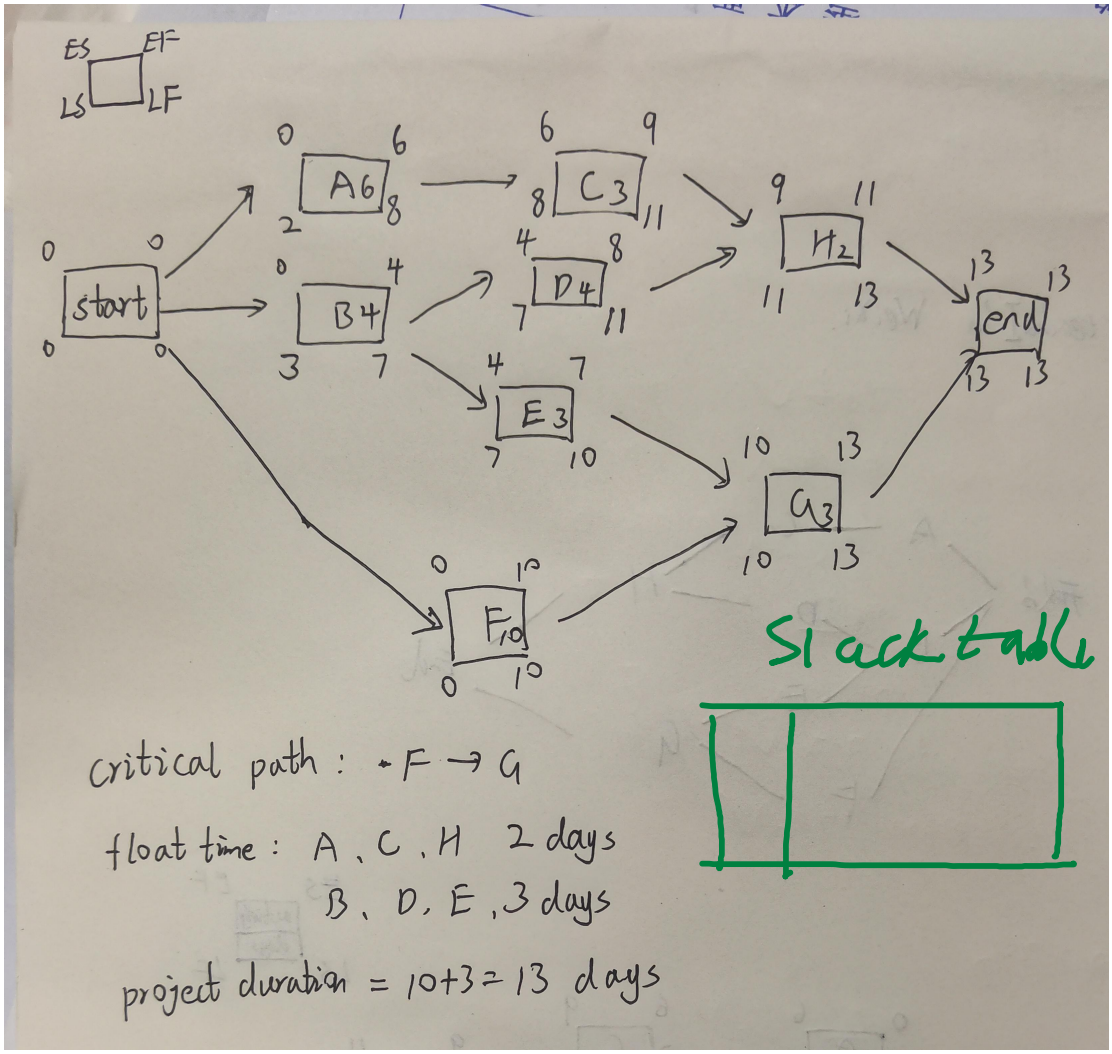
monitoring and controlling process group

closing process group

relation:Process groups are not the phases of a project. There are usuall y five process groups in every project. These process groups are perform ed and repeated in each phase of a project.



6. Critical path methods, forward and backward pass, find critical path an d slack or float of the activity, and find project duration



7. List and describe each of the 10 project management knowledge areas.

1. Project Integration Management

Project integration management is a project management knowledge area that helps teams work together more seamlessly. Integration management takes various processes, systems, and methodologies and brings them together to form a cohesive strategy.

2. Project Scope Management

Project scope management involves the project scope, that is, the work that is included in the project.

3. Project Schedule Management

Project schedule management is a process that refers to how the project manager manages his schedule for a particular project.

4. Project Cost Management

Project cost management is the process that is concerned with planning and controlling the budget of the project.

5. Project Quality Management

Project quality management is the main criterion when it comes to determining the value of a project.

6. Project Resource Management

Project resource management mainly concentrates on how the project is carried out utilizing the desired resources to complete a project activity.

7. Project Communications Management

Project communication management is a collection of processes that help make sure the right messages are sent, received, and understood by the right people.

8. Project Risk Management

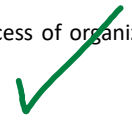
Project risk management is the process of identifying, analyzing and responding to any risk that arises over the life cycle of a project to help the project remain on track and meet its goal.

9. Project Procurement Management

Project Procurement Management is a structured process that is used to define, plan, implement, control and transition an activity from a current to a future state.

10. Project Stakeholder Management

Project stakeholder management is the process of organizing communication with stakeholders and managing stakeholder expectations.



8. What are the phases in a traditional project life cycle?

A traditional project life cycle is a collection of project phases-concept,development, implementation, and close-out. These phases do not vary byproject.

Initiating: It's the first and most vital step in the life-cycle of your project. In this process group, the initial scope of the project gets defined, as well as resources are committed. Thus performing this process group well ensures the success of your project. Complete of the business case and project charter

Planning: In this process group, an appropriate level of detail is planned for the project. It's done to plan time, cost and resources. It helps you to estimate the work needed and manage risk effectively during the execution of a project. Complete the WBS and scope statement , project schedule and cost estimate

Executing: This process group consists of the processes which are used to complete the work defined in the project management plan. It's about achieving the project's objectives. It also involves tracking, reviewing and regulating the performance of the project. Also, you need to identify the potential problems quickly and take corrective actions. Perform actions necessary to complete the work described in the plan.

Closing: This process group is an important part of project management, performed to finalize all project activities to complete the project. This means finishing all activities across all the process groups, disbanding the project team and signing off the project with the customer using the project closure report.

Figure 1 – Traditional Planning Focus
(Adapted the from PMBOK Guide)

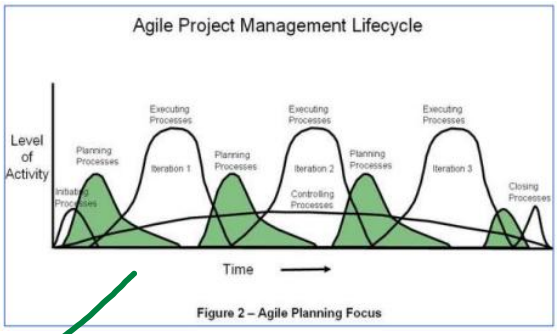


Figure 2 – Agile Planning Focus

9. What are the 4 scrum ceremonies?

答：1.Sprint planning 2.Daily Scrum 3.Sprint review 4.Sprint retrospective

10. What is performance reporting? What are some methods used for pe rformance reporting?

Performance reporting is a task that project management professionals c omplete that analyzes a project's progress and inform stakeholders of th e project's forecasts and status. It involves the collection and analysis of data involving a project's overall production process.

Tools and techniques used in performance reporting include communicat ion methods, variance analysis, forecasting techniques, status, progress and reporting systems.

11. What are the 12 principles behind the Agile Manifesto?

1. **Satisfy the customer** through early and continuous delivery of valuable software.

2. **Welcome changing requirements**, even late in development.

3. **Deliver** working software **frequently**

4. Business people and developers must **work together**

5. Build projects around motivated individuals. Give them the environment and support they need, and **trust** them.

6. The most efficient and effective method of conveying information is **face-to-face conversation.**

7. **Working software** is the primary measure of progress.

8. The sponsors, developers, and users should be able to **maintain a constant pace** indefinitely.

9. Continuous attention to technical **excellence** and good design .

10. **Simplicity**–the art of maximizing the amount of work not done–is essential.

11. The best architectures, requirements, and designs emerge from **self-organizing teams**.

12. The team reflects on how to **become more effective** and adjusts its behavior accordingly.

12. What are the 5 stages of the Tuckman model?

1)forming：project team enlightenment stage
Build teams and test to determine boundaries

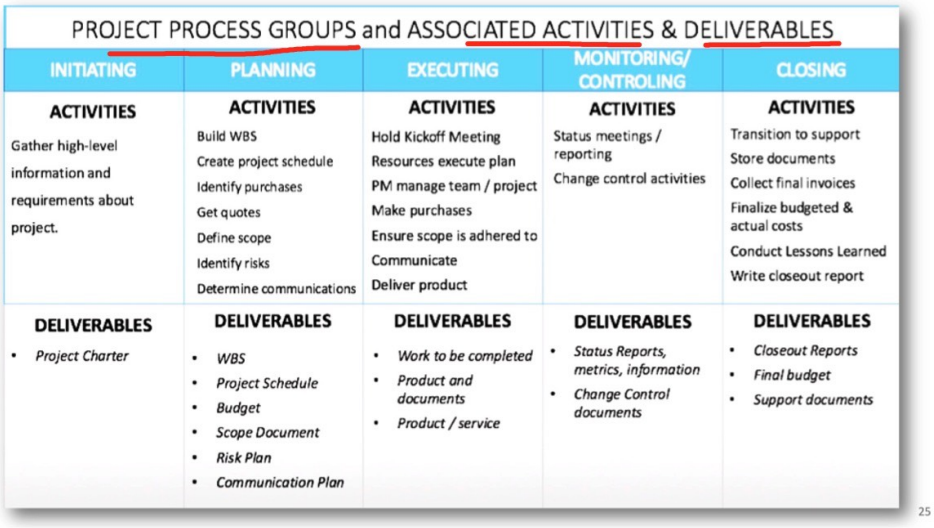
2)storming：the project is in the shock stage.
Team members show their expectations and dissatisfaction, and conflicts continue to occur

3)norming： project specification stage.
Team members run in with each other and have a clear understanding of their own identity

4) performing：project maturity stage.
The stage when the project team operates as a whole and works smoothly

5) adjourning： project dissolution stage.
During the dissolution phase of the project, members will feel uncertain about the future

13. What are the associated activities and deliverables along Project Process Groups?



PROJECT PROCESS GROUPS and ASSOCIATED ACTIVITIES & DELIVERABLES

INITIATING	PLANNING	EXECUTING	MONITORING/ CONTROLING	CLOSING
ACTIVITIES Gather high-level information and requirements about project.	**ACTIVITIES** Build WBS Create project schedule Identify purchases Get quotes Define scope Identify risks Determine communications	**ACTIVITIES** Hold Kickoff Meeting Resources execute plan PM manage team / project Make purchases Ensure scope is adhered to Communicate Deliver product	**ACTIVITIES** Status meetings / reporting Change control activities	**ACTIVITIES** Transition to support Store documents Collect final invoices Finalize budgeted & actual costs Conduct Lessons Learned Write closeout report
DELIVERABLES • *Project Charter*	**DELIVERABLES** • *WBS* • *Project Schedule* • *Budget* • *Scope Document* • *Risk Plan* • *Communication Plan*	**DELIVERABLES** • *Work to be completed* • *Product and documents* • *Product / service*	**DELIVERABLES** • *Status Reports, metrics, information* • *Change Control documents*	**DELIVERABLES** • *Closeout Reports* • *Final budget* • *Support documents*

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