



SNS COLLEGE OF ENGINEERING



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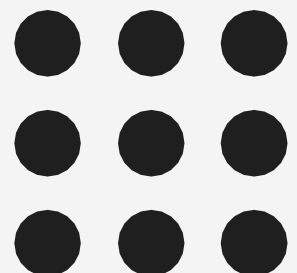
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Department of Information Technology

Course Name – Software Engineering

II Year / III Semester





Agile process model

- The meaning of Agile is swift or versatile.
- "**Agile process model**" refers to a software development approach based on iterative development.
- Agile methods break tasks into smaller iterations, or parts do not directly involve long term planning.
- The project scope and requirements are laid down at the beginning of the development process.
- Plans regarding the number of iterations, the duration and the scope of each iteration are clearly defined in advance.



Agile process model

- Each iteration is considered as a short time "frame" in the Agile process model, which typically lasts from one to four weeks.
- The division of the entire project into smaller parts helps to minimize the project risk and to reduce the overall project delivery time requirements.
- Each iteration involves a team working through a full software development life cycle including planning, requirements analysis, design, coding, and testing before a working product is demonstrated to the client.

Agile process model



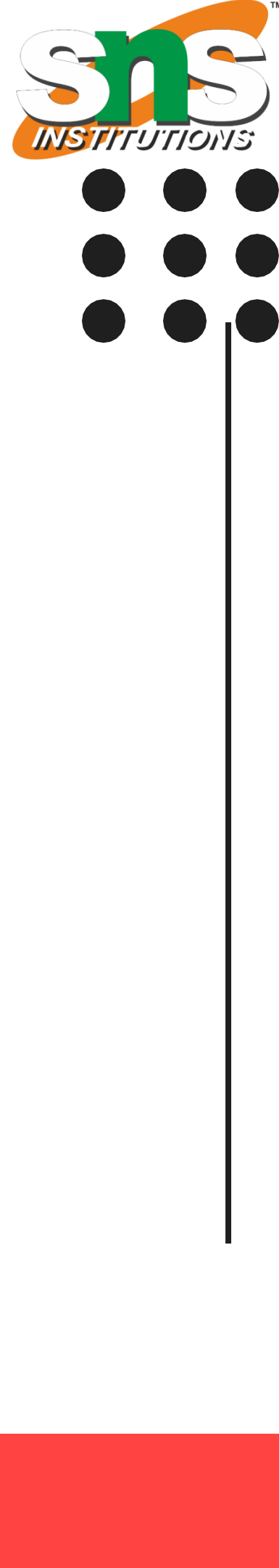
Fig. Agile Model



Phases of Agile Model:

Following are the phases in the Agile model are as follows:

1. Requirements gathering
2. Design the requirements
3. Construction/ iteration
4. Testing/ Quality assurance
5. Deployment
6. Feedback

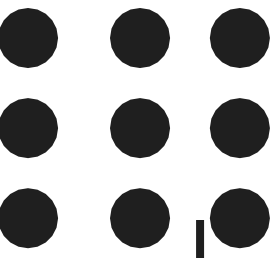


- 1. Requirements gathering:** In this phase, you must define the requirements. You should explain business opportunities and plan the time and effort needed to build the project. Based on this information, you can evaluate technical and economic feasibility.
- 2. Design the requirements:** When you have identified the project, work with stakeholders to define requirements. You can use the user flow diagram or the high-level UML diagram to show the work of new features and show how it will apply to your existing system.
- 3. Construction/ iteration:** When the team defines the requirements, the work begins. Designers and developers start working on their project, which aims to deploy a working product. The product will undergo various stages of improvement, so it includes simple, minimal functionality.
- 4. Testing:** In this phase, the Quality Assurance team examines the product's performance and looks for the bug.
- 5. Deployment:** In this phase, the team issues a product for the user's work environment.
- 6. Feedback:** After releasing the product, the last step is feedback. In this, the team receives feedback about the product and works through the feedback.



Agile Testing Methods:

- Scrum
- Crystal
- Dynamic Software Development Method(DSDM)
- Feature Driven Development(FDD)
- Lean Software Development
- eXtreme Programming(XP)





Scrum

SCRUM is an agile development process focused primarily on ways to manage tasks in team-based development conditions.

There are three roles in it, and their responsibilities are:

- **Scrum Master:** The scrum can set up the master team, arrange the meeting and remove obstacles for the process
- **Product owner:** The product owner makes the product backlog, prioritizes the delay and is responsible for the distribution of functionality on each repetition.
- **Scrum Team:** The team manages its work and organizes the work to complete the sprint or cycle.

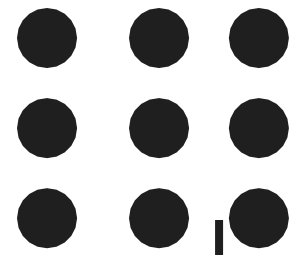
The Agile Scrum Framework at a Glance

Inputs from Executives,
Team, Stakeholders,
Customers, Users



Example of Agile software development

- **Product** ~ MS Word
- **Features** ~ all the features provided by MS Word and any other features requested by the marketing team
- **Duration** ~ 10 months



WATER FALL MODEL



GATHERING REQUIREMENTS AND ANALYSIS

DESIGN

CODING AND UNIT TESTING

SYSTEM AND INTEGRATION TESTING

USER ACCEPTANCE TESTING

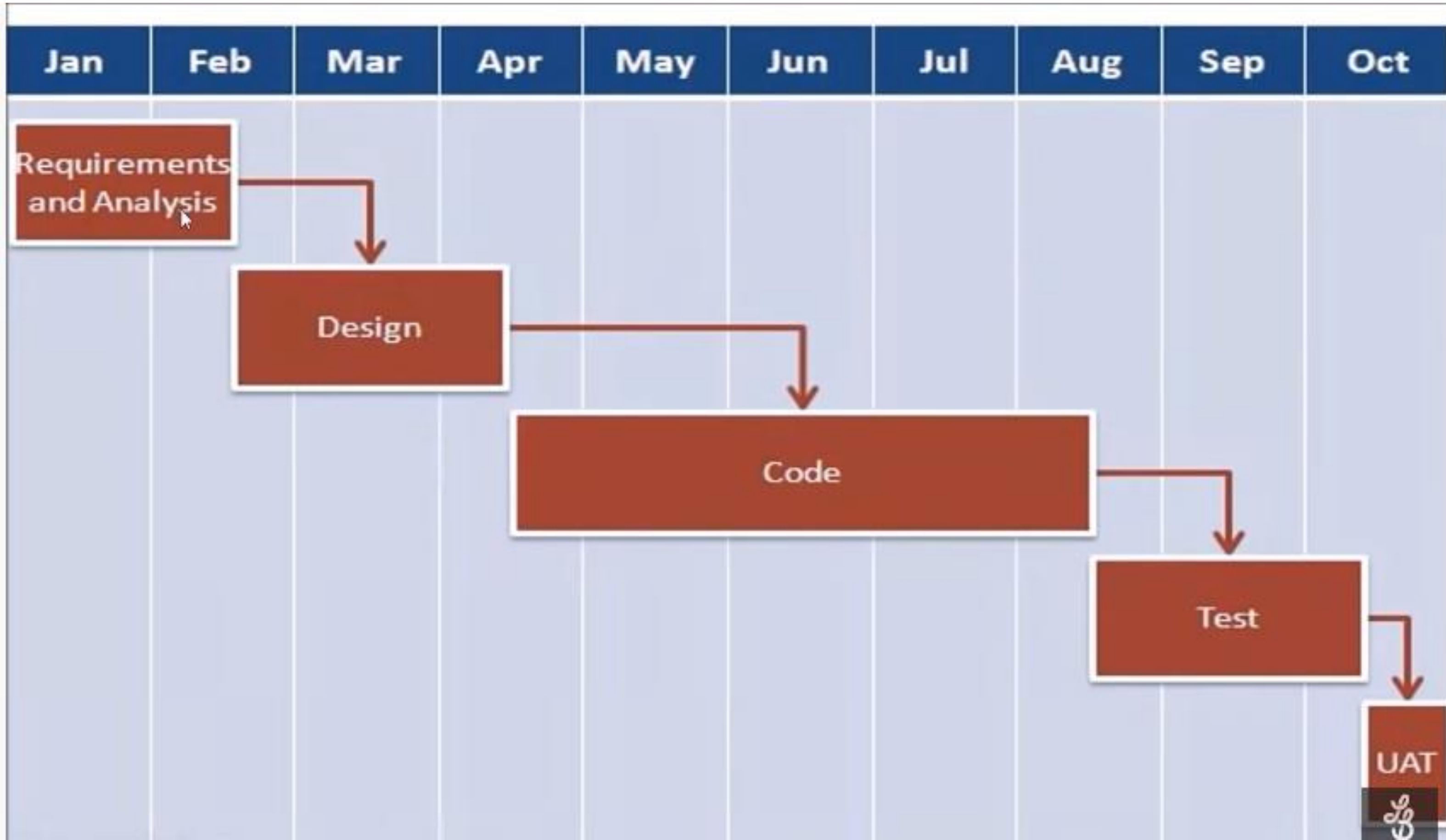
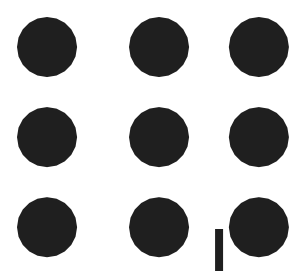
1.5 Months (15%)

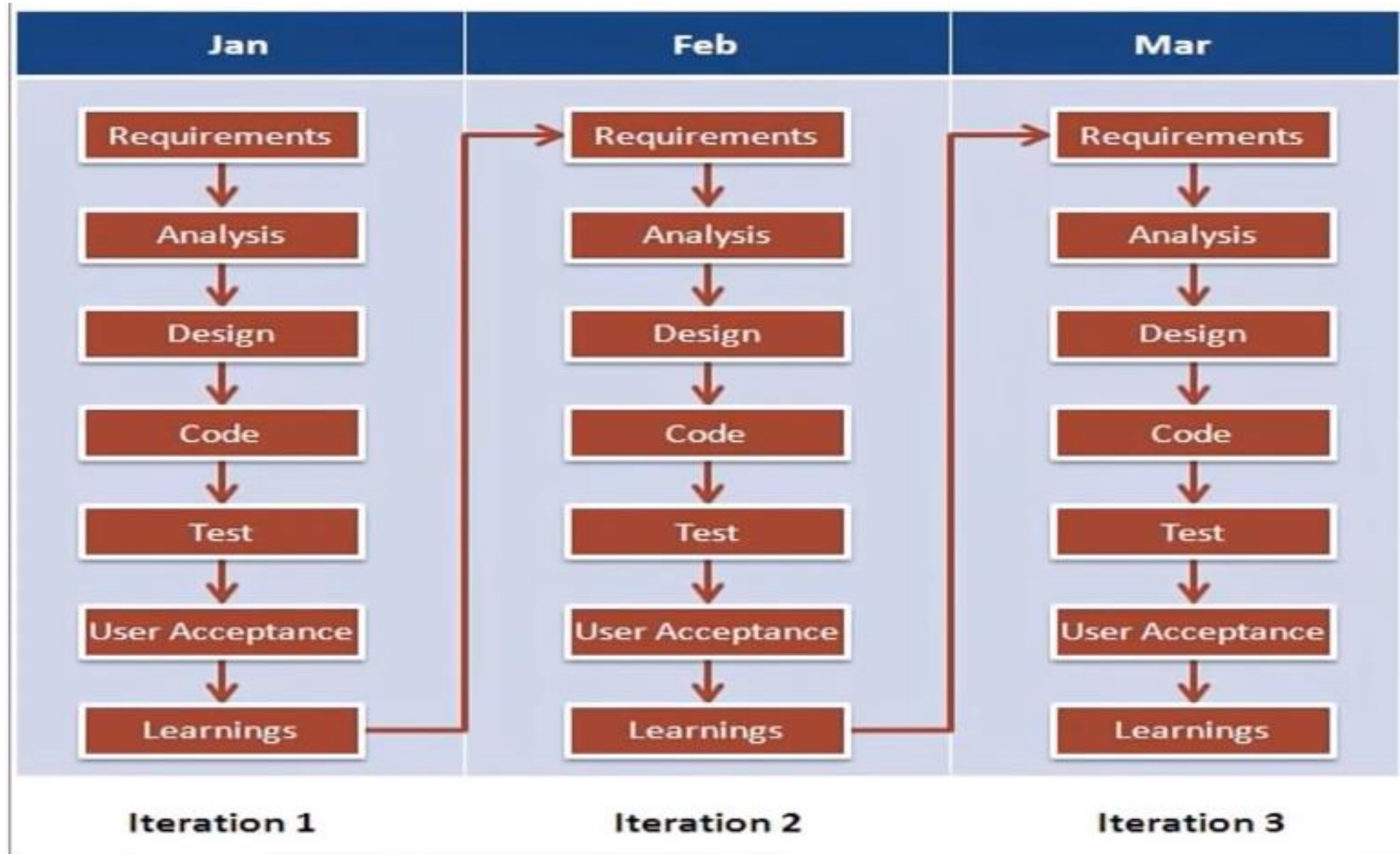
2 Months (20%)

4 months (40%)

1.5 Months (15%)

2 Weeks





Iteration 1



Iteration 2



Iteration 3





THANK YOU