Assignment 1: Agile Project Planning - Create a one-page project plan for a new software feature using Agile planning techniques. Include backlog items with estimated story points and a prioritized list of user stories.

Agile project planning:

For a E-comm application with a new feature "Shopping cart" is going to be developed. Here's a Project plan with Scrum framework on agile methodology.

Agile Project Plan for New Software Feature: Shopping Cart

Objective: To develop a web page where users can add, update, and remove items in their shopping cart, view the total cost, and proceed to checkout page.

Project Backlog:

ID	User Story	Sprint points	Priority
SC-001	**add product to shopping cart**	**3**	**High**
SC-002	**Remove & Update Product from cart**	**5**	**High**
SC-003	**Total cost of products added**	**2**	**Medium**
SC-004	**Product can be saved for later use**	**3**	**Medium**
SC-005	**Proceed to checkout page with total amount to pay**	**13**	**Low**
SC-006	**Save items for future use to not include in main cart and amount**	**8**	**Low**
SC-007	**Make coupon available and provide relative discount**	**8**	**Medium**

Sprint Planning and sprint backlog:

- **Developers:** 2
- **QA:** 1
- **Sprint length:** 10 days
- **Total sprint points:** 42
- **Velocity:** 13-16 per sprint
- **Start Date: 21 January, 2024**

❖ **Sprint 1 (21st Jan – 1st Feb):**
  - High priority task and core task to develop first
    SC-001, SC-002, SC-003, SC-004 will develop and tested.
  - 13 points will be covered.
  - Release x.1v

- **Sprint 2(3nd Feb – 13th Feb):**
  - Task which can deliver early and have medium priority can be developed
    SC-006, SC-007 will develop and tested.
  - 16 points will be covered.
  - Release x.2v
- **Sprint 3(14nd Feb – 26th Feb):**
  - Low priority task
    SC-005 will develop and tested.
  - 13 points will be covered.
  - Release x.3v

Definition of Done (DoD):

- User Stories will be implemented and tested with unit, integration, UAT.
- Ensure all user stories have documentation and performance benchmarks met.
- Feature should work on any device, browser etc.
- Bugs and feedbacks must be resolved before deadline.

Risk and mitigation:

- **Risk:** Delayed feedback
  Mitigation: Provide schedule and demos before.
- **Risk:** Technical challenges in integrating discount codes.
  Mitigation: Allocate additional buffer time in Sprint 2.

Assignment 2: Daily Standup Simulation - Write a script for a Daily Standup meeting for a development team working on the software feature from Assignment 1. Address a common challenge and incorporate a solution into the communication flow.

Daily Standup Simulation:

Date: January 21, 2024
Time: 9:30 AM
Team Members:

- Product Owner: King
- Scrum Master: Ankit
- Developer 1: Varun
- Developer 2: Akshay
- QA Engineer: Jacky

Scrum Master will Start the meeting:

Ankit:
Hello team, let's start today's standup. Today we are going to align our tasks, planning them and identify their risk and dependencies.
Quickly brief about sprint goals and move to updates.
To start, King, can you summarize the sprint goals?

King:
Thanks Ankit, Hello team, in our first sprint we are covering all core functionalities of shopping cart:
1. Adding products to the cart (SC-001).
2. Removing and updating products in the cart (SC-002).
3. Displaying the total cost of products in the cart (SC-003).
4. Saving products for later (SC-004).

This will establish the foundation for future features and ensure the cart is fully functional.

Ankit:
Thanks, King. Now let's move to updates. Since this is Day 1, let's focus on what you plan to start working on and any anticipated challenges. Varun, let's begin with you.

Varun:
Thanks, Ankit, I'll start by with setting database schema for the cart, including tables for cart items, saved items, and associated relationships.
I'll also begin creating the API's for adding products to the cart (SC-001), I will try to check them.

I found that potential issue might come for handling large carts specially and parallel updating the cart on shared accounts.

Ankit
Good, Varun. Make sure to document your approach so Akshay can align with the API design. You identified a valid concern also we will figure out about that after hearing from others.
Akshay, now your turn.

Akshay:
I'll work on designing the shopping cart UI, focusing on the layout for product listings, quantity controls, and total cost display.
I'll use placeholder APIs for now, with Varun's endpoints to be integrated later.

Responsive UI across devices might be tricky, especially for dynamic elements like quantity selectors and handling pics of products.

Ankit:
Good point, Akshay. If you encounter any challenges, loop in with Jacky to validate designs early so that we are in same page as our expectations. Jacky, what about you?

Jacky:
Thanks, Ankit. I'll work on test plan completion and acceptance criteria for SC-001 and SC-002 based on the sprint goals.
I'll also review potential edge cases required in handling cart overflows etc.
I may need additional inputs from King or developers to cover all edge cases.

Ankit:
Good Jacky, Now lets discuss about Varun's concern.

Akshay:
We can implement optimistic locking of database. This way, we'd check the cart version before updating and reject conflicting changes.

Varun:
I was thinking about database level locks which have performance issue but thanks Akshay for the idea. I will connect with you if needed later.

Jacky:
If we go with optimistic locking, we'll need to test various scenarios where multiple updates are made simultaneously to ensure errors are handled properly.

King:
I agree. From a user experience perspective, it's crucial to show clear messages with better ergonomics if an update fails, along with a retry option.

Ankit:
Good points. Varun, let's go ahead with optimistic locking today, take your time and connect with Akshay if needed. Akshay, make sure your design includes error messages and retry option.
Anyone want to share anything?

Team:
No further concerns.

Ankit:
Great! Let's get started. If you encounter any blockers, feel free to reach out. Have a productive day, everyone!