Michael Xavier Canonizado
BSCS 3A - Software Engineering
Exercise 2 - Software Processes

1. Why is the Scrum framework defined as lightweight?

Scrum is considered lightweight since it offers just the basic set of roles and rules necessary to handle projects. It does not decide the specific procedures, allowing teams to have guidelines yet customize their workflows

2. Suppose two teams, A and B, working on different projects, hired by different companies:

- **a. Both teams adopt 15-day sprints**
- **b. Both teams have 5 devs**
- **c. Team A's velocity is 24 story points**
- **d. Team B's velocity is 16 story points**

Can we say that Team A is 50% more productive than B? Justify.

No. Velocity doesn't measure a team's productivity, it only measures the number of story points completed by a team in each sprint. Since story points depend on the team's estimation and project complexity, it will vary amongst teams. So we shouldn't compare teams' velocity.

3. Work overload is a common problem in software teams. How can Kanban help to solve this problem?

Kanban limits the number of tasks in progress to ensure that developers finish current tasks before starting new ones. It provides a structured workflow ensuring that developers have an aerial view of the overall progress of the project which in turn reduces overload.

4. Another problem in software teams is developers who rush to deliver stories, but without the proper quality level. How can Kanban help to solve this problem?

Kanban visualizes the workflow and limits "work in progress". Kanban is flexible enough to where bigger tasks can be divided into smaller tasks and allow developers to tackle and complete them one by one ensuring that the overall task is done with quality.

5. Suppose that your university plans to migrate to a new learning management system. It is considering 3 strategies:

(a) develop the new system internally, using devs from the university.
(b) outsourcing the development to a software agency.
(c) buying or subscribing to an existing product on the market.

Assuming that the system in the three options will be developed using Scrum, describe the most suitable Product Owner profile for each option.

(a) A university staff member familiar with academic needs and internal processes.
(b) A university representative with strong communication and negotiation skills to align external work with internal goals.
(c) Someone with enough technical and functional understanding to manage configurations and ensure the product fits the university's needs.

6. There are four important variables in software contracts: scope, time, cost, and quality. XP argues that it is impossible to fix these four variables via a contract, as surprises will occur during the project. Suppose a fixed scope contract. If a surprise occurs during the project, which of these variables is likely to be sacrificed by the contracting company to avoid penalties?

Time or quality is usually sacrificed. Since scope and cost are fixed by contract, the company may extend deadlines or lower quality standards to deliver everything within the agreed scope and budget.

7. Suppose you are the tech lead of a team. The developers are complaining that they are unable to use certain modules because the documentation of their public interfaces is outdated. Upon investigating the issue, you confirmed that developers often change the modules' interfaces, but do not update the documentation. Assuming the team uses Scrum, what measure would you take to prevent this problem?

Include documentation updates as part of the spring. It will be checked during the review, and if it wasn't updated accordingly, it will be updated before starting a new task.