# Instructions

1. Do not change the format of the template.
2. Answer items in RED.
3. Submit using the filename format “**lastname\_software\_methodologies.pdf**”.

# Activity

1. When is waterfall better than agile? Provide an example.

**Waterfall** is a linear project management methodology where each phase must be completed before the next begins. While often criticized for its rigidity, there are specific scenarios where it might be more suitable than Agile:

* **Projects with Well-Defined Requirements:** When the scope and deliverables of a project are clear and unlikely to change significantly, Waterfall can provide a structured approach.
* **Projects with High Regulatory Compliance:** Industries with strict regulations, such as aerospace or healthcare, often require a detailed upfront plan and documentation that aligns with compliance standards.
* **Small, Simple Projects:** For small-scale projects with limited complexity, Waterfall might be sufficient due to its straightforward approach.

**Example:** A small software development team is tasked with creating a simple, standalone application with a fixed scope and deadline. The requirements are well-defined, and there's no expectation of significant changes during development. In this case, a Waterfall methodology might be more efficient than Agile, as it provides a clear path and timeline.

1. Make a summary of the different types/flavors of agile.

Agile is an umbrella term for a group of iterative and incremental development methodologies. Here are some common flavors:

* **Scrum:** The most widely used Agile framework, Scrum emphasizes teamwork, self-organization, and continuous improvement. It uses sprints (time-boxed iterations) to deliver working products incrementally.
* **Kanban:** Originating from manufacturing, Kanban focuses on visualizing workflow, limiting work in progress, and continuously improving. It uses a board with columns representing different stages of development.
* **Extreme Programming (XP):** Emphasizes simplicity, communication, feedback, and courage. XP practices include pair programming, test-driven development, and continuous integration.
* **Feature-Driven Development (FDD):** A feature-centric approach that involves building features in small, manageable increments.
* **Dynamic Systems Development Method (DSDM):** A framework that emphasizes delivering projects on time and within budget, while still adapting to changing requirements.

1. Why is scrum considered as the most popular among other types of agile?

Scrum's popularity can be attributed to several factors:

* **Simplicity:** Scrum's core principles and practices are relatively easy to understand and implement.
* **Flexibility:** While Scrum provides a framework, it allows teams to adapt and tailor it to their specific needs.
* **Emphasizes Collaboration:** Scrum fosters collaboration and teamwork, leading to better problem-solving and innovation.
* **Focus on Deliverables:** Scrum prioritizes delivering working products at regular intervals, providing tangible results.
* **Strong Community and Support:** A large and active Scrum community offers resources, training, and support.

# References

* Provide at least five references in APA format.

**Agile Manifesto:**

* Agile Alliance. (2001). *Agile Manifesto*. Retrieved from <https://agilemanifesto.org/>

**Scrum Guide:**

* Scrum.org. (2020). *Scrum Guide*. Retrieved from <https://www.scrum.org/resources/scrum-guide>

**Kanban Guide:**

* Scrum.org. (2016). *Kanban Guide for Scrum Teams*. Retrieved from <https://www.scrum.org/resources/kanban-guide-scrum-teams>

**Extreme Programming Explained:**

* Beck, K. (2000). *Extreme Programming Explained: Embrace Change*. Addison-Wesley.

**Feature-Driven Development:**

* Jacobson, I., Booch, G., & Rumbaugh, J. (1999). *The Unified Software Development Process*. Addison-Wesley.

**Dynamic Systems Development Method:**

* DSDM Consortium. (2012). *DSDM Agile Project Framework*. DSDM Consortium.