

Activity 0: UML Activity Diagrams

Why?

Designers must learn various design **processes** (collections of related tasks that transform a set of inputs into a set of outputs) and design software processes. **Activity diagrams** are notations for specifying processes, so they are useful for describing design processes and how design works.

Learning Objectives

- Read activity diagrams, recognizing diagram symbols, understanding activity and action inputs and outputs, and the order of action execution
- Explain the token-based activity diagram execution model
- Write correct and readable activity diagrams describing processes

Success Criteria

- Be able to name the symbols in an activity diagram
- Be able to describe the flow of control and data in an activity diagram
- Be able to make an activity diagram for a process

Resources

What is an Activity Diagram? (Week 1 Module in Canvas)

Plan

1. Do the Exercises as a team and check your answers with the instructor.
2. Do the Problems as a team.
3. Turn in the Problems and Assessment as a team deliverable.

Exercises

True or False

1. Actions and activities are the same.
2. There can be several activity final nodes in a diagram.
3. There can be several initial nodes in a diagram.
4. A decision node always has two branches.
5. In general, there are as many merge nodes as decision nodes in a diagram.

Problems (Deliverable)

1. Draw an activity diagram describing an algorithm for finding the maximum value in a list. The input is the list, and output is the maximum value.
2. Draw an activity diagram describing two people peeling a pot of potatoes. Note that two people do this in parallel and they stop when all the potatoes are peeled.