

## Activity 2-1: 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 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

*ISED* section 2.1 and Chapter 2 exercises.

### Vocabulary

Activity, action, object node, activity edge, initial node, activity final node, flow final node, decision node, merge node, guard, fork node, join node, activity parameter, pin, control token, data token

### Plan

1. Review *ISED* section 2.1 individually.
2. Answer the Key Questions individually, and then evaluate the answers as a team.
3. Do the Exercise as a team, and check your answer with the instructor.
4. Do the Problems and Assessment as a team.
5. Turn in the Problems and Assessment as a team deliverable.

### Key Questions

1. What is the difference between an **activity** and an **action**?
2. How do **tokens** flow through activity diagrams?
3. How is a loop constructed in an activity diagrams?
4. What is the difference between a **flow final node** and an **activity final node**?

5. How are **activity parameters** indicated in an activity diagram?

**Exercise**

Do *ISED* Chapter 2 exercise 1.

**Problems (Deliverable)**

1. Do *ISED* Chapter 2 exercise 7.
2. Do *ISED* Chapter 2 exercise 9.

**Assessment (Deliverable)**

1. What did your team do especially poorly or well?
2. How could you improve your team's performance next time?