Activity Diagram for the Elevator System

Create some activity diagrams for the elevator system problem.

We'll cover the following

- The passenger arrives at the desired floor
  - States
  - Actions
- Activity challenge: The passenger calls for the elevator

An activity diagram is a great way to visualize the flow of messages from one activity to the other in the system. There can be different activity diagrams that we can create for our elevator system. In this lesson, we will create activity diagrams for the following two activities:

- The passenger arrives at the desired floor.
- **Activity challenge:** The passenger calls for the elevator.

The passenger arrives at the desired floor

The following are the states and actions that will be involved in this activity diagram.

States

Initial state: The passenger enters the elevator car.

Final state: There are two final states present in this activity diagram. These are shown below:

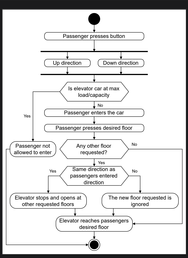
- The passenger arrives at the destination floor.
- The passenger is not allowed due to max load/capacity issues.

Actions

The passenger enters the elevator car. The elevator car checks if the safety limits are met. The elevator car stops at other passengers' floors. Finally, the elevator car reaches the passenger's desired floor.

Based on the order above, the activity diagram of a passenger arriving at their desired floor is given below.

> **Note:** Here, the passenger is just entering the elevator, so either the up or the down button can be pressed.

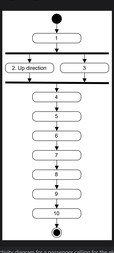


The activity diagram for a passenger arriving at their desired floor

Activity challenge: The passenger calls for the elevator

You will create an activity diagram of a passenger calling for the elevator.

A skeleton of the activity diagram is given below.



The activity diagram for a passenger calling for the elevator

Notice that the actions in the diagram above are numbered from 1 to 10. The slots shown below represent the activities, and the arrows represent the flow from one activity to the other.

Can you rearrange the slots below in the correct order they should appear in the activity diagram above?

> **Note:** If you get stuck, just click the "Show Solution" button to check the correct answer.

Fill the missing slots with the correct actions for a passenger calling for the elevator.

Passenger presses the button

Up direction

Down direction

Floors button light is turned on

Screen shows approaching elevator cars current floor

Elevator reaches passengers floor

Floors button light is turned off

The elevator door opens

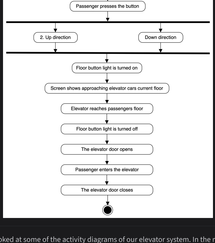
Passenger enters the elevator

The elevator door closes

Reset | Show Solution | Submit

Alternatively, you can also click the "Show complete diagram" button below to see the complete sequence diagram.

Hide complete diagram



We've looked at some of the activity diagrams of our elevator system. In the next lesson, we will present the code for our designed classes in some of the most popular languages.