**Chapter 1**

**Answers to Concept Questions**

1. (a) Analyze the task (understand the problem task, identify objects and actions)
2. Design a plan (In Alice, set up the scene, create a list of steps)

(c) Implement the plan, and (carry out the plan)

(d)Test and fix any bugs. (does it meet expectations?)

1. Background information describes the setting, or environment in which objects will perform actions. Object-actions identifies which objects will perform specific actions.
2. (a) The background information: A snowy/icy surface (appropriate for a penguin’s

environment). A hole in the ice where water can be seen. The object-action information includes the penguin kicking the ball toward the water and the penguin celebrating success (If the ball lands in the water).

(b) The background information: A scene containing a biplane positioned above the ground. No mention is made of what is on the ground, but some houses, buildings, or streams would be helpful in terms of seeing the biplane’s flight progress. The object-action information is partially interactive (the user pressing an arrow key), but otherwise the biplane turns left or right and moves up or down.

1. Answers will vary.