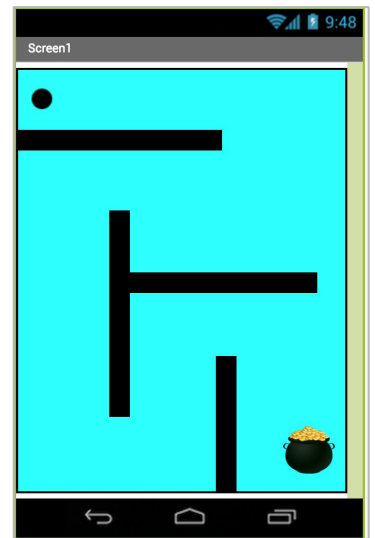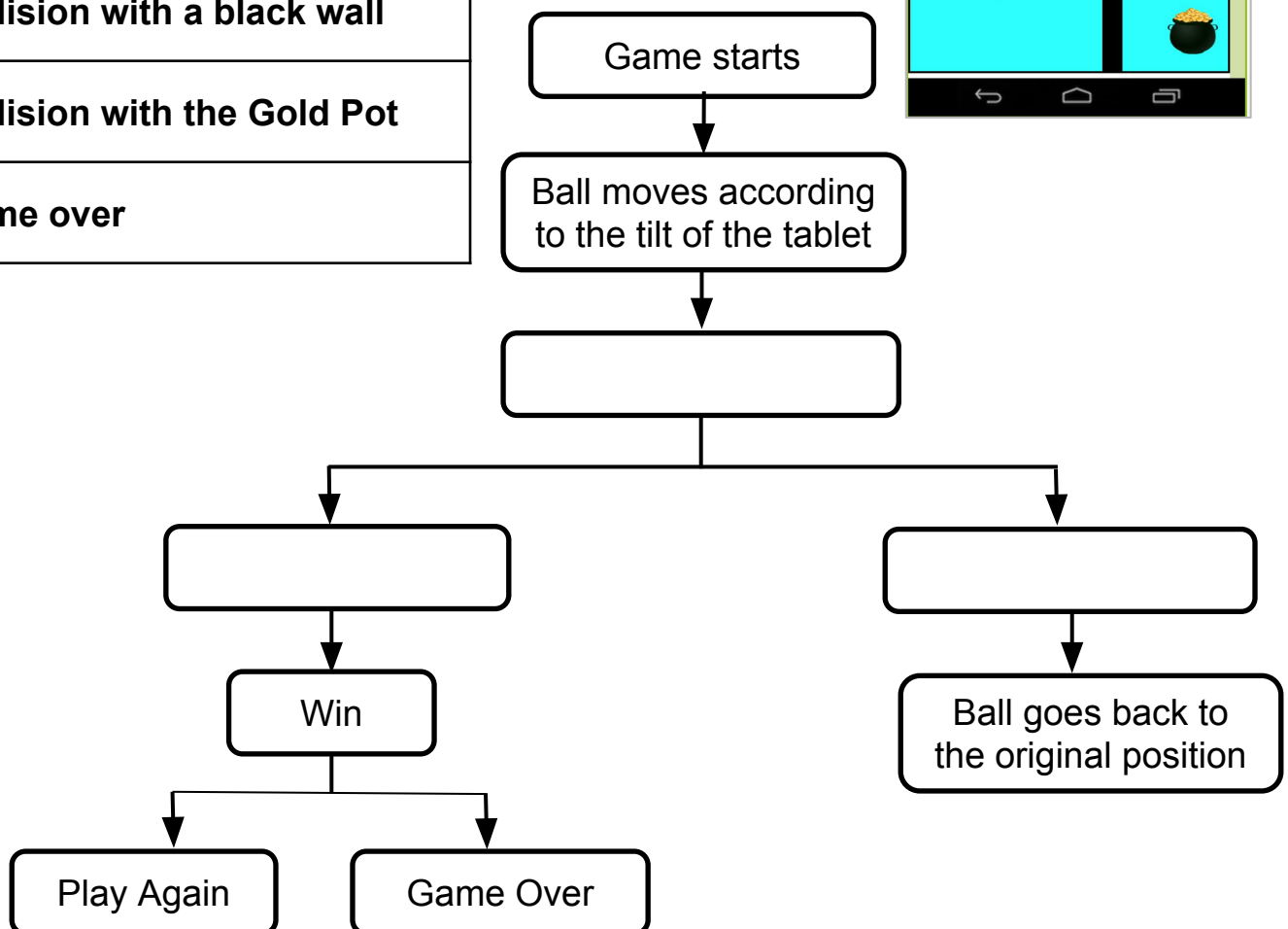# FIND THE GOLD: PART 1

You will make a new game app that moves a ball through a maze when you tilt your smartphone or tablet.

START HERE

1 Look at and discuss the following diagram with your partner. Try to complete the missing steps for this app by selecting A, B, C or D below. Some have been filled in for you.

A. Ball collision detected.
B. Collision with a black wall
C. Collision with the Gold Pot
D. Game over

Game starts

↓

Ball moves according to the tilt of the tablet

↓

[ ]

├─────────────┬─────────────┤

[ ]   [ ]

↓   ↓

Win   Ball goes back to the original position

├────────┬────────┤

Play Again   Game Over

MIT APP INVENTOR

THE DESIGNER

2 Open the **FindTheGold** template project, provided by your teacher, in MIT App Inventor. This is what it should look like in the Designer.

Canvas, Ball, and ImageSprite components are in the Drawing and Animation drawer

3 Discuss with your partner the function of each of the components.

Ball1

HorizontalWall1

Canvas1

VerticalWall1

HorizontalWall2

VerticalWall2

GoldSprite

The AccelerometerSensor is in the Sensors drawer.

Non-visible components

AccelerometerSensor1

AccelerometerSensor1

THE APP CHALLENGE

- ❏ Using the template provided, make a maze app where the user has to move the ball through the maze, avoid the walls, and reach the gold.

- ❏ Complete the SetUpMaze procedure that is supplied with the template, and call it when the app starts. All ImageSprites representing the walls and the GoldSprite should be placed on the Canvas so they show fully on the screen and fit well for a maze game.

- ❏ Ball movement must be controlled by the Accelerometer sensor. When the user tilts their mobile device, the ball rolls in that direction.

- ❏ When ball collides with a black wall, it returns to the starting point.

- ❏ When the ball touches the gold, ball movement stops. A message is displayed to the user that the game is over, using the Notifier component. Give the user two options - Play Again or Quit.

  - ❏ If user chooses Play Again, reset everything to start the game again.

  - ❏ If user chooses Quit, close the app.

**Choose Ways to
Extend Your App**

Here are a
few features you
could add if you
want to expand
your app

Add scoring - give
points when the
user reaches the
Gold

Add a
countdown
timer

Add user
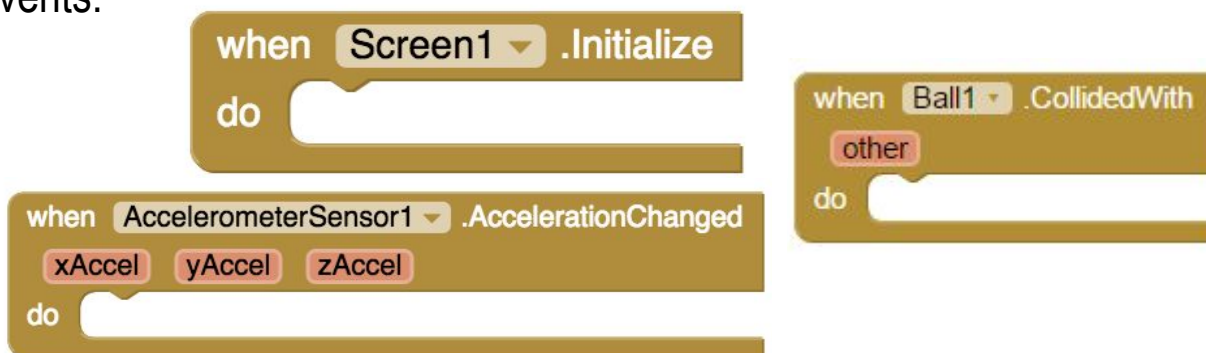lives for a limited
number of
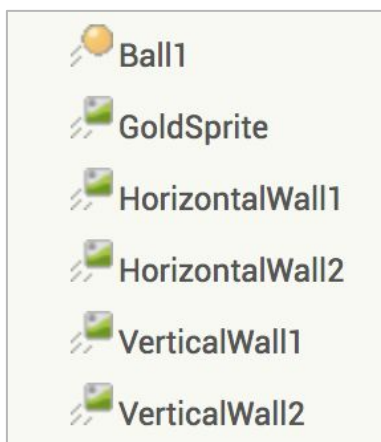chances to reach
Gold

What other ideas
do you have?

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COMPUTATIONAL THINKING CONCEPTS

The following are the Computational Thinking Concepts learned in Lesson 1.

Find the Gold
1. Events:
2. Naming: ImageSprites
4. Conditionals
5. Operators