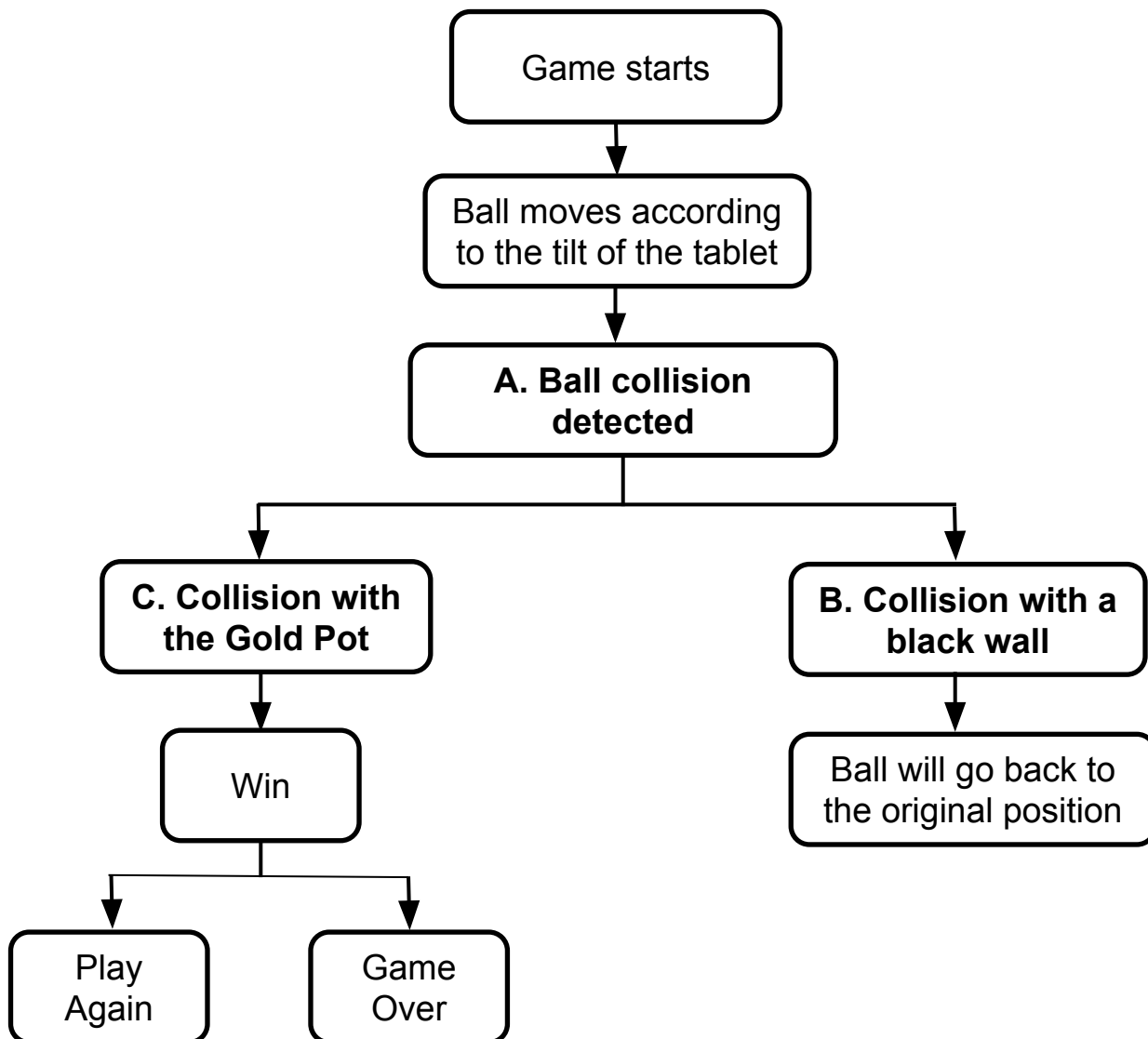# FIND THE GOLD: PART 2

You will now add Ball movement to your maze game so the Ball moves as you tilt the mobile device

## REVIEW

1 Review the diagrams below with your partner. Check that you understand the sequence of steps for the Find the Gold app below.

```
                    Game starts
                         │
                         ▼
            Ball moves according
            to the tilt of the tablet
                         │
                         ▼
              A. Ball collision
                  detected
              ┌──────────┴──────────┐
              ▼                      ▼
     C. Collision with       B. Collision with a
       the Gold Pot            black wall
              │                      │
              ▼                      ▼
            Win              Ball will go back to
         ┌────┴────┐         the original position
         ▼         ▼
      Play       Game
      Again      Over
```
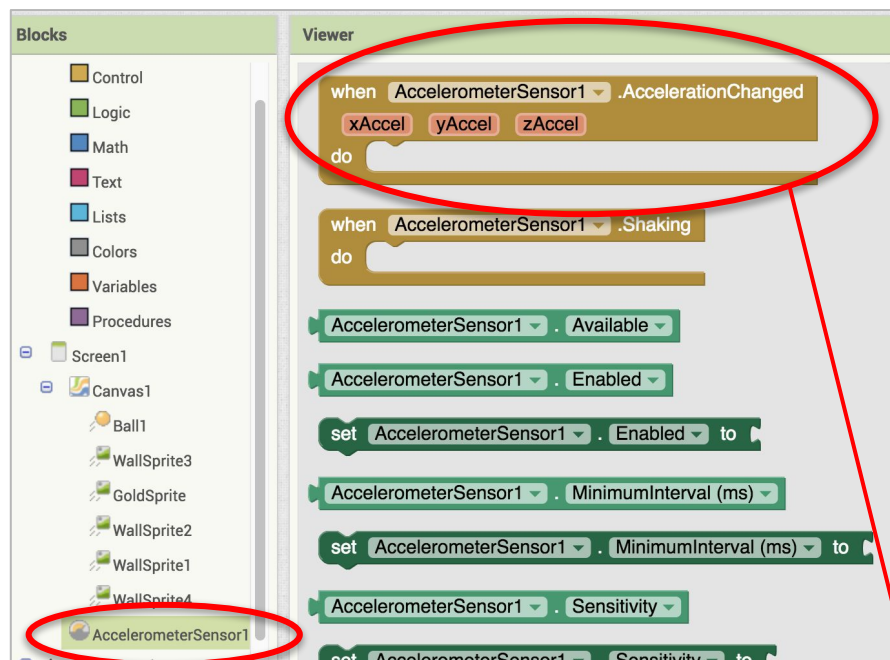
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ACCELEROMETER

The **Ball** will move as the user tilts the mobile device. Use the **AccelerometerSensor** to measure the tilt in the X and Y direction to update the **Ball's** position. - - - - - - - ➤
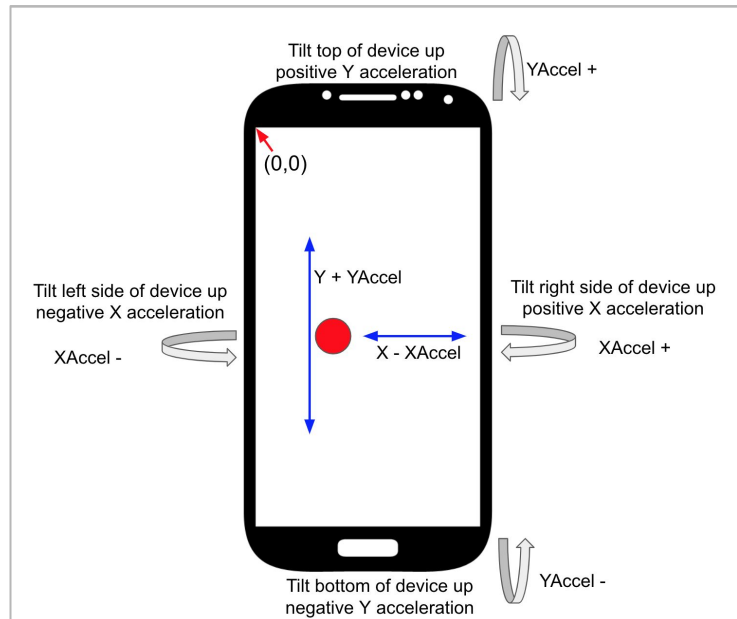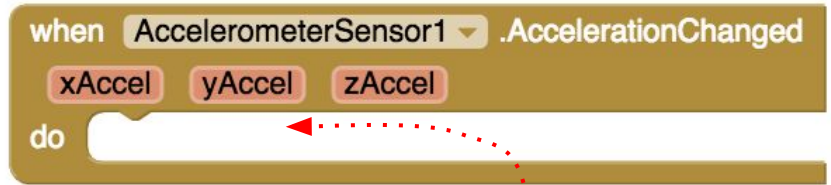

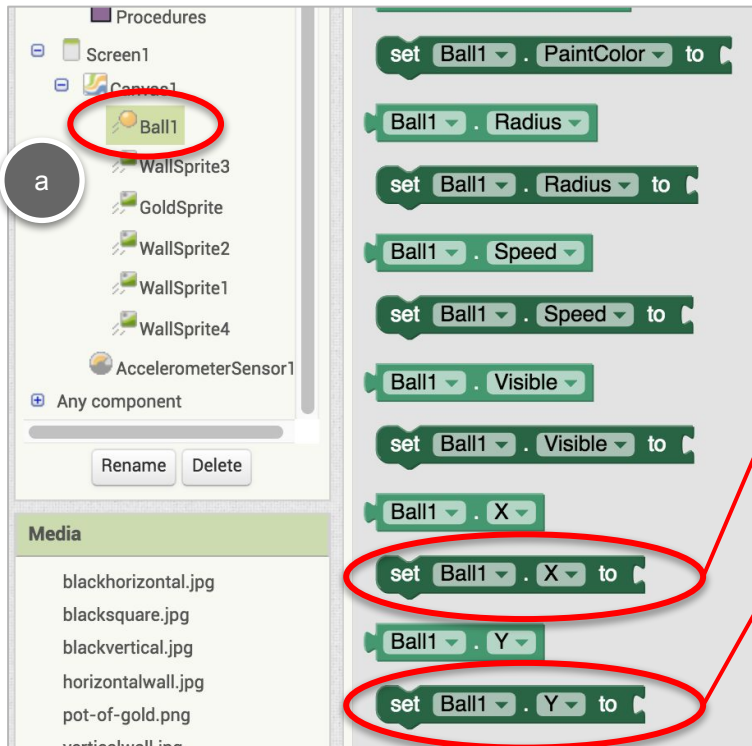**2** Drag out an **Accelerometer1.AccelerationChanged** block.

MOVING THE BALL

when AccelerometerSensor1 .AccelerationChanged
xAccel   yAccel   zAccel
do

3 Drag out a **set Ball1.X** block and a **set Ball1.Y** block and snap both into the **Accelerometer1.AccelerationChanged** block.
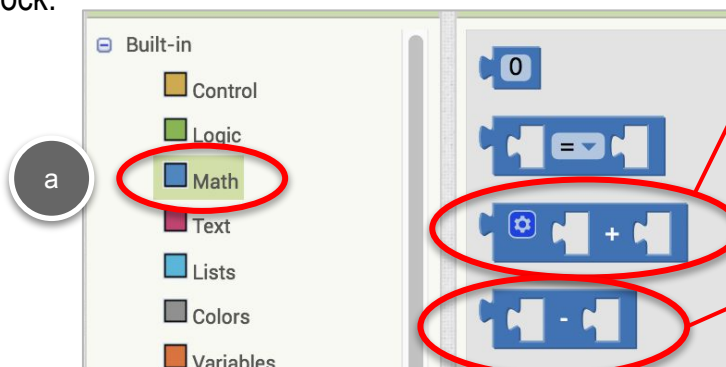
a

Procedures
Screen1
Canvas1
Ball1
WallSprite3
GoldSprite
WallSprite2
WallSprite1
WallSprite4
AccelerometerSensor1
Any component

Rename Delete

Media
blackhorizontal.jpg
blacksquare.jpg
blackvertical.jpg
horizontalwall.jpg
pot-of-gold.png
verticalwall.jpg

set Ball1 . PaintColor to
Ball1 . Radius
set Ball1 . Radius to
Ball1 . Speed
set Ball1 . Speed to
Ball1 . Visible
set Ball1 . Visible to
Ball1 . X
set Ball1 . X to
Ball1 . Y
set Ball1 . Y to

b

set Ball1 . X to

c

set Ball1 . Y to

4 From the Math drawer, drag out a minus **(-)** block and snap to the **set Ball1.X**. Drag a plus **(+)** block and snap to the **set Ball1.Y** block.

a

Built-in
Control
Logic
Math
Text
Lists
Colors
Variables

0
=
+
-

c   +

b   -

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UPDATE BALL X,Y COORDINATES

5 From the **Ball1** drawer, drag out **Ball1.X** and snap to the left side of the minus (-) block. Snap **Ball1.Y** to the left side of the plus (+) block.

Update the X and Y positions by adding to or subtracting from the current values

6 Hover over the **xAccel** and **yAccel** input parameters. Snap **get xAccel** to the minus (-) block, and **get yAccel** to the plus (+) block.
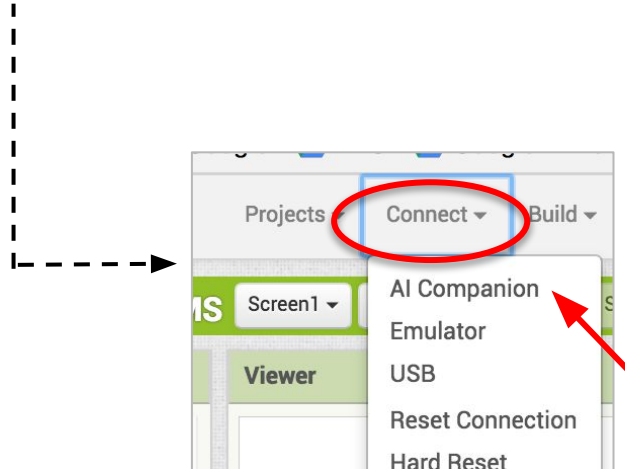
Because XAccel is negative when tilting right, subtract XAccel to make it move according to how you tilt the device.

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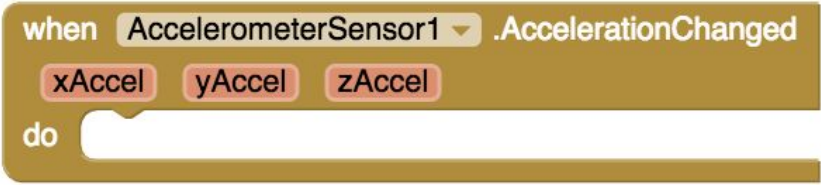**APP INVENTOR**

4

TESTING!

7 Test the app with the MIT AI2 Companion. Your ball should move according to how you tilt the device!

COMPUTATIONAL THINKING CONCEPTS

The following are the Computational Thinking Concepts learned in Part 2.

Find The Gold
1. Events:
2. Operators: