

△ Triangle Adventures 3.0 △

The goal of this game is to venture through levels of various difficulty by commanding the Player, a triangle, with code.

Getting Started

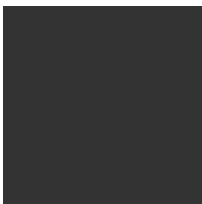
1. Download this [zip file](#), which is an Eclipse project
2. Import the project into Eclipse
3. Run the program to check out the game!
4. Open the only file in the src folder, **TriangleAdventures.java**
5. Try typing the commands listed below to complete the first level!
6. Run the program again
7. After completing the first level, change the level number in TriangleAdventures.java, which is located near the top of the file.

Game Pieces



PLAYER

This is the piece you control to complete the levels.



WALL

These blocks cannot be passed through by the Player.



ENEMY

All enemies must be attacked by the Player to complete a level.

**KEY**

All keys on the map must be collected in order to unlock a door.

**DOOR**

Doors can be unlocked by collecting all the keys in all the levels

Player Commands (Methods)

Method	Description
move()	Moves the player one space forward in the direction that the player is pointing.
turnLeft()	Rotates the player 90 degrees to the left.
turnRight()	Rotates the player 90 degrees to the right.
attack()	Destroys an enemy that is directly in front of the player.

Example (TriangleAdventures.java)

```
// Player commands for Level 1
public static void solveLevel1(Player player) {
    player.move();
    player.attack();
}
```

The code above would move the player forward and attack the enemy in front of it.

Additional Useful Methods

Method	Description
<code>getLocation().getX()</code>	Returns the Player's x-coordinate in the grid
<code>getLocation().getY()</code>	Returns the Player's y-coordinate in the grid

Conditionals and Loops

A quick reference for basic programming that will be needed in later levels.

if:

```
if (condition) {  
    // Code to run if condition is met  
} else {  
    // Code to run if condition is not met  
}
```

else-if

```
if (condition1) {  
    // Code to run if condition1 is met  
} else if (condition2) {  
    // Code to run if condition1 is not met, but condition2 is met  
} else {  
    // Code to run if no conditions are not met  
}
```

while

```
while (condition) {  
    // Code will repeat as long as condition is met  
}
```

for Example

```
for (int count = 1; count <= 5; count++) {  
    // Code will repeat exactly 5 times.  
}
```

Levels

1) To The Point

Task	Hint
Kill the circle in front of you. He was looking at you funny.	Read the documentation and see what methods, or commands, are available.

2) Farther Back

Task	Hint
The circle has moved back. Annihilate it!	Do what you did last level.

3) Assassination

Task	Hint
The circles have found a way to sneak up behind you... Watch out!	Try looking through the documentation and see what you can find.

4) Don't be Square

Task	Hint
Navigate around the square wall, and brutally slaughter the Circle.	You only need around 10 lines of code to do this properly, and should be exactly where you started.

5) Running Circles Around ... Squares

Task	Hint
It seems the cowardly Circle refuses to fight. Oh well, you will have to go around to kill it!	You can have code both inside and outside of loops.

6) Hedge Maze

Task	Hint
The circles have planted themselves in the core of a dizzying maze. Find it and kill it!	You can have multiple loops in a single program.

7) Cleaning up

Task	Hint
You have received new instructions from General Tohm. He will provide you with an instruction, but has to do so in a secret code. The secret code is an integer: "code". If the message you receive is '1', you must attack the circle in front of you. If the message is '2', you must stab the Circle spy that is behind you.	The variable is called Level7.CODE Use an if statement to check for what value is in the variable. You may want to look up how to compare numbers to variables in Java.

8) Unpredictable Enemies

Task	Hint
The Circles have gotten a bit smarter, and started choosing random locations. However, you have a source who provides with the distance from you to each circle. Given an integer, distance, kill the Circle straight in front of you.	The variable is called Level8.DISTANCE Try using a for loop to move the number of times it takes to get to the Circle.

9) Unpredictable Walls

Task	Hint
The circles have hid themselves inside a room. Luckily, you have a source that provides the length of the wall separating you and the circle! Given an integer, wallLength, kill the circle inside the room.	The variable is called Level9.WALL_LENGTH.

10) Breaking Barriers

Task	Hint
The Circles have gone into hiding! Now, they are being sheltered by a locked door. Luckily, they are very forgetful and left a key outside. Your mission is to find the key, go through the door, and attack the circle	The variables to use are KEY_LOC, DOOR_LOC, and ENEMY_LOC. These are integer arrays, meaning they are sets of multiple integers. In this case, KEY_LOC[0] represents the x-value and KEY_LOC[1] represents the y-value.

11) Two key or not to key

Task	Hint
The Circles have once again gone into hiding behind a locked door. This time though, the door requires two keys to open. Your mission is to find the keys, go through the door, and attack the circle	The variables to use are KEY_1_LOC, KEY_2_LOC, DOOR_LOC, and ENEMY_LOC. These are integer arrays, meaning they are sets of multiple integers. In this case, KEY_1_LOC[0] represents the x-value and KEY_1_LOC[1] represents the y-value.

12) Don't get Dizzy

Task	Hint
The Circles have found an ingenious way to make you dizzy! They have built a maze full of twists and turns that they hope will hypnotize you and make your brain explode! Fortunately, you have found a pattern to the maze: each "section" of the maze has N steps, then N-1 steps, N-2 steps, and so forth. See if you can reach the circle without getting too dizzy!	The variable called Level11.N tells you how many "sections" there are to the maze. Use the nested for loop(for loops inside of for loops) that is found in the code.

13) Key to Success

Task	Hint
The Circle clan has locked you up in their prison, but they really are stupid. They dropped the key in a random area around the prison. You can see it, so you have guessed the location of the key. Assuming your guess is right, find the key and unlock the door.	The x-position of the key is Level12.KEY_LOCATION[0]. The y-position of the key is Level12.KEY_LOCATION[1].

14) Where is it?

Task	Hint
The Circle has upgraded his defenses, building a "complex" maze, but not really. Anyway, you're kind of tired by now so you don't want to waste your energy. Find the shortest way to get to the Circle. You will be given the coordinates to the Circle.	The player is located at (Level13.PLAYER_X, Level13.PLAYER_Y). The Circle located at is (Level13.ENEMY_X, Level13.ENEMY_Y).

15) Many Keys to Success

Task	Hint
The Circles have upped their security even more! You need to collect not just one, but all of the keys scattered throughout the level.	The layout of the keys is randomly generated.

16) Master Maze

Task	Hint
A small maze.	Have fun!