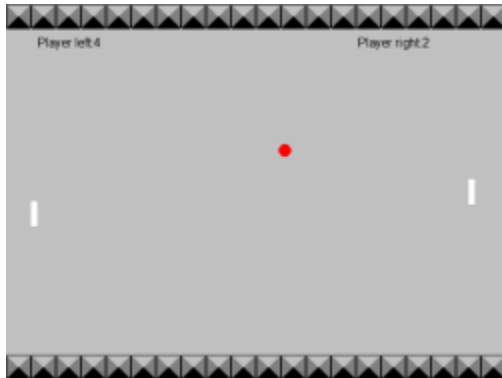


# Game Maker

## Pong Game Lab

One of the most basic and classic computer games of all time is Pong. It was originally released by Atari in 1972. It was a commercial hit. It is also the perfect game for anyone starting to learn game design.

The game has only a few elements: a couple of paddles, a ball, score counters and a playing room.



### General Instructions

Below are listed "some" steps you will want to consider as you make your pong game.

1. If you are not in *Advanced Mode*, you should set Game Maker to *Advanced Mode* in the *File menu*.
2. You must create one of your sprites using the sprite editor. You may get other sprites from the *Resources* folder.
3. Set the origin for each sprite.
4. If you create your own "ball sprite", don't forget to set a transparency color.
5. Name your sprites for the ball, paddle1, paddle2, goal1, goal2 and the wall. It will be easier if you use Game Maker's naming conventions (i.e. spr\_ball).
6. Create each of your objects (i.e. obj\_ball, obj\_paddle\_left).
7. Once you have created your objects you will need to add your events and actions. Here are some things you will want to consider:
  - a. You must create walls that snap to a **24x24 grid**.
  - b. You will need to decide when your ball will be created and the direction it will start moving.

- c. You will need to decide which event your paddle will use: Keyboard and Up, Keypress, or Key Release. One definitely works, while the others do not.
  - d. You will use a "Jump to a given position" to move the paddles.
  - e. Once you have your paddle programmed test it!
  - f. You may want to *Duplicate* your left paddle and use the *Change* button to create the right paddle.
  - g. Don't forget to destroy balls that go past an opponent.
  - h. You will need to create an invisible goal line on each end to determine when someone has scored.
  - i. Increment the correct player's score.
8. Create a room similar to the one show above.

### Project Requirements

- 1) Your project must function like a typical pong game with two paddles with independent controls for the left paddle and right paddle. I would recommend getting one paddle to work at a time.
- 2) You must create one of your sprites using the sprite editor.
- 3) The paddles may not move off the screen.
- 4) The ball must start in the middle of the room. It will move in any of the 8 fixed directions at the start of the game.
- 5) If the ball gets past your opponent you score a point.
- 6) Your paddles must behave such that if the ball strikes the top 1/3 of the paddle it makes the ball bounce up at a 45 degree angle. If the ball strikes the bottom 1/3 of the paddle it makes the ball bounce down at a 45 degree angle. If the ball strikes in middle 1/3 of the paddle it bounces straight back. This is similar to the collision between Katch and Pop in "Rainbow Reef."
- 7) You will need to create a second level with objects that will be placed in the room that will create unexpected bounces.
- 8) You must track the score for each player.
- 9) You will need to keep the game going until one side has lost 5 times. At which time you will declare a winner.

### Extra Credit

- 1) You may add gravity to the way your ball functions. This can be a bit tricky to get it to actually behave.
- 2) You may create smaller paddles to make the game harder.
- 3) You may make a level where the ball moves faster.