

Pong Program Preparation Planning

We're ready to write our first game! Part of programming is breaking down a problem into smaller pieces that you can solve separately. You then combine these smaller pieces into larger components until you have the whole program put together.

For the Pong game, use this planning worksheet to help design your code BEFORE you start writing. Read over **all** the requirements in the left column. Take a few minutes to think before filling out the rest of the worksheet. The first row is an example.

| Game component | What's going on? | What owns the logic? | What triggers the change? | What could be tricky? | Pseudocode |
|---|--------------------------------|----------------------|---|--|---|
| Players can control paddles with required keys | <i>Paddle moves up or down</i> | <i>Paddle sprite</i> | <i>Press up or down arrow Press w or s keys</i> | <i>When paddle gets to the top or bottom it can't move anymore</i> | Left paddle variable: <i>left speed</i> <i>if</i> sprite is hitting top edge of canvas OR hitting bottom edge of canvas then reverse paddle movement <i>When up arrow is pressed</i> <i>If</i> paddle is moving down stop paddle else change direction to up |
| Ball begins play at middle of field at start of game and after each point | | | | | |

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|---|--|--|--|--|--|
| Ball bounces correctly off upper and lower edges of paddles | | | | | |
| Ball increases speed each time it bounces off a paddle | | | | | |
| Score a point for the opponent when the ball touches the left or right edge | | | | | |
| Game ends when one player reaches five points | | | | | |

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| Winning player is shown when the game ends | | | | | |
| Players can begin a new game | | | | | |