1. As a player, I want Pacman to be in the middle of the board of size W x H**[[1]](#endnote-1)** (where W = columns and H = rows)

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| **Given** | **When** | **Then** |
| A board | Size is W=3, H = 4 | The Pacman is at column 1, row 2 (counting top-to-bottom) |
| A board | Size is W=6, H=6 | The Pacman is at column 3 row 3 |

1. As a player, I want to change Pacman’s orientation

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| **Given** | **When** | **Then** |
| A board | Size is W=3, H = 4 | Pacman looks up |
| A board with Pacman looking up | Player sends ‘turn left’ | Pacman looks left |
| A board with Pacman looking up | Player sends ‘turn right’ | Pacman looks right |
| A board with Pacman looking up | Player sends ‘turn down’ | Pacman looks down |
| A board with Pacman looking up | Player sends ‘turn up’ | Pacman looks up |

1. As a player, I want Pacman to move in the direction I specified

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| --- | --- | --- |
| **Given** | **When** | **Then** |
| A 3X4 board with Pacman looking up, at 1,2 | Payer sends ‘turn left’ and then a tick happens | The Pacman is at 0,2 |
| A 3X4 board with Pacman looking up, at 1,2 | A tick happens | The Pacman is at 1,1;  Pacman looks up |

1. As a player, I want Pacman to wrap around the edges

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| **Given** | **When** | **Then** |
| A 3x4 board with Pacman looking up, at 1,0 | A tick happens | Pacman is at 1,3.  Pacman looks up |

1. As a player, I want to **see** the board displayed when the game starts. A tick happens every half a second.

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| **Given** | **When** | **Then** |
| A 3X4 board with Pacman looking up, at 1,2 | When half a second passes | The Pacman is at 1,1 |

1. As a player, I want to **see** Pacman change direction when using arrow keys.

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| **Given** | **When** | **Then** |
| A 3X4 board with Pacman looking up, at 1,2 | When half a second passes | Pacman is at 1,1 |
| A 3X4 board with Pacman looking up, at 1,1 | I press arrow left | Pacman looks left |
| A 3X4 board with Pacman looking up, at 1,1 | A half a second passes | Pacman is at 0,1 |

1. As a player, I want Pacman to eat pellets as he moves.

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| **Given** | **When** | **Then** |
| A 3x4 board filled with food pellets, except for Pacman’s position, Pacman is at 1,2 | When 1 second passes (2 ticks) | Pacman is at 1,0  No pellet is at 1,2  No pellet is at 1,1 |

1. As a player, I want the score to go up as Pacman eats pellets.   
   I want the score to go up by 10 for each pellet.

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| --- | --- | --- |
| **Given** | **When** | **Then** |
| An initial board filled with pellets | Player does not send any ‘turn’ event. | The score is 0. |
| An initial board filled with pellets | When half a second passes and Pacman lands on a pellet | The score is 10. |
| An initial board filled with pellets | Pacman moves once up (and lands on a pellet) then back down (no pellet). | The score is 10. |

1. As a player, I want to see a cherry on the board. The value is 200 points.  
   I want the cherry to disappear (and the score to increase) when Pacman reaches it; the cherry also disappears if Pacman doesn’t eat it after 10 ticks.

|  |  |  |
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| **Given** | **When** | **Then** |
| An 3x4 board with a cherry at 1,1 and Pacman at 1,2 | When half a second passes | The score is 200. The cherry is gone. |
| An 3x12 board with a cherry at 1,1 and Pacman at 1,11 | When 5 seconds passes (10 ticks) | The score is 0. The cherry is gone. |

1. As a player I want Pacman to stop when hitting a wall.

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| **Given** | **When** | **Then** |
| An 3x4 board with a wall at (1,1), Pacman at 1,3, looking up | When 1 second passes (2 ticks) | Pacman is at 1,2 |

1. The stories assume that the board first column/row is 0 and the coordinates 0x0 are at the top left corner [↑](#endnote-ref-1)