

## Fisica Platformer Implementation List

**Terrain Types:** These are types of FBodies that make up the world in your game. Each type of terrain needs to be coded with a color in your map.png file, and correctly loaded. Each tile should have a unique appearance in the game itself (eg: a different image attached to that type of terrain). Some require specific things to happen within `contactStarted()`\* to bring them to life. Each type should also have some sort of image or unique color attached to it to make it visually distinct in your game.

- **Elevators and Conveyor Belts (1 mark):** When you touch this type of terrain, the character should accelerate in a specific direction. Use `body.setSensor(true)` to make them intangible, and use `player.adjustVelocity()` to accelerate the player in `contactStarted()`.
- **Springs (1 mark):** When you touch a spring, it should adjust your velocity in `contactStarted()`.
- **Slippery Block (1 mark):** A terrain type with low or no friction.
- **Crates (1 mark):** A terrain type that is not set to static. The player can move these around to solve puzzles.
- **Falling Bridges (2 marks):** A terrain type that appears to be solid ground, but it stops being static when the player contacts it.
- **Water (2 marks):** A terrain type that slows your movement in all directions as if swimming in a viscous fluid. Use `.setSensor(true)`.
- **Switch (2 marks):** A terrain type that when touched triggers properties to change in other blocks (ex: `setStatic(false)`).
- **Fancy Blocks (3 marks):** A terrain type that has its visual appearance determined by the surrounding blocks. For example, a ground terrain that attaches different images based on what edges are exposed to empty space.
- **Teleporters (3 marks):** When you touch this type of terrain, the player's position is immediately set to another predefined location on the map. A teleporter needs 2 different locations defined in the map, possibly using 2 different colors. Don't teleport directly on to the corresponding teleporter, or the player will endless switch back and forth between teleporters.
- **Sign Posts (3 marks):** When you touch this type of terrain, the game displays an on screen message to the player. Possibly pauses the game when this happens; consider making a MESSAGE mode to handle this.
- **Additional Terrain Features (1-3 marks):** If you implement something not on this list, please tell me about it. The amount of marks you will receive will depend on the challenge level of coding I'll add it to this list to inspire others.

\* This is not the only way, please feel free to use whatever way you want to access FBodies that are contacting.

**Enemy Types:** These are FBodies that can kill the player. Except spikes, all enemies have movement and some interesting feature(s) that make them distinct.

- **Spikes (1 mark):** Spikes do not move, and kill the player on contact. They cannot die.

- **Thwomps (2 marks):** Thwomps are static until you get near them, then they fall from a height to crush the player. Any contact with a Thwomp kills the player and they cannot die.
- **Goomba (3 marks):** Goobas walk in one direction until they hit a wall, and then reverse direction. Players that contact a goomba on its sides or bottom die, but a contact on the top will kill the goomba instead.
- **Shell (3 marks):** Shells are harmless when stationary but are deadly while moving. When you touch the sides of a stationary shell, they start moving. Jumping on top of a shell kills the shell whether moving or not.
- **Koopa (3 marks):** Koopas move and contact players like goombas, but when you kill one they drop a shell enemy.
- **Thrower (3 marks):** Throwers make sensor spikes that fly through the air. They contact a player like a goomba. Some throwers are stationary (such as the flowers that come out of pipes in Mario games) and others move.