Welcome to our game BounceMan. Our game is a platformer where you must control a character and bounce from platform to platform while endlessly climbing higher and avoiding falling. There are no levels in this game, instead the platforms are randomly generated each session. As the player climbs higher they are able to achieve a new high score.

Our game is heavily inspired by Doodle Jump. Our novel idea is having the player constantly be chased by lava. This prevents the possibility of players idling for a long period of time and provides an incentive for them to move quickly.

The appeal of the game comes from its simplicity. There are only two inputs, left arrow and right arrow. This means it is easily accessible for players of any skill level. Each play session is also very quick, only lasting a few minutes but with the possibility of lasting for an infinite amount of time.

When developing the game we had three major challenges:

1. Randomly generating platforms.

2. Implementing gravity physics.

3. Balancing the game difficulty

Originally our game was made in a 2d array. At the beginning of the game the array would be filled with platform pixels or clear pixels randomly. However, we quickly realised this mechanism would not work. The game contained an entire 2d array which would cost too many resources. We decided to make an arraylist of platforms in the game class to allow for contents to be freely added and removed when needed.

To simulate gravity we had a velocity integer. In the player update() function the velocity of the player is increased. This velocity is then applied to the y location of the player character. This means each time the screen is refreshed the player falls at a faster rate than the last time it was refreshed to simulate gravity increasing the speed of the fall. When the player comes into contact with a platform the velocity is decreased so the player is moved upwards next time the screen is refreshed.

The final challenge was balancing the game. We had to decide the size of the player and platforms and movement speed. We also worked to provide good visual feedback to the players to allow them to tell the difference between platform types. We added different difficulties. With easy being just the platforms, allowing the player to understand the basic premise and movement, with medium adding enemy characters and hard introducing the lava mechanic.

We came up with these ideas thanks to our evaluation phase and internal testing, coming to a balancing decision we believe is challenging, fair and most importantly fun.

For future development, we would like to add a global high score leader board feature. This would allow people to save their scores and even compare them to others.

The characters are also designed with merchandise in mind. We also have plans for further sequels and spin offs when this game inevitably breaks record sales.

**Story Background：**

In the starry sky of the universe, there is a mysterious planet called Ice Planet. BounceMan is filled with longing for the highest peak on Planet, and he desires to challenge his limits.

He needs to jump under the endless starry sky , avoiding enemies and lava, and constantly jumping. Each step on an ice platform is a challenge.

Now, BounceMan needs your help to jump smoothly and get a higher score!