

2D Platformer

Platforms and Platforming



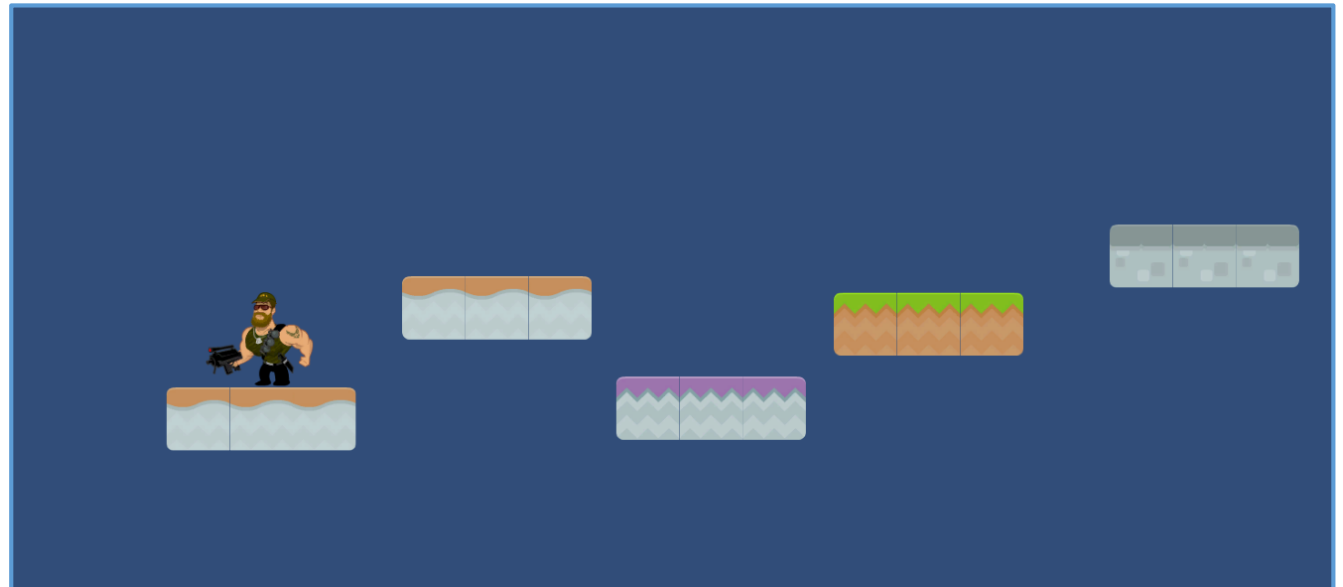
CONTENTS

Constructing a 2D Platformer	1
The Platforms.....	2
The Character	4

CONSTRUCTING A 2D PLATFORMER

When constructing any 2D platformer, we need 2 things. We need platforms and we need a character that can move around on those platforms.

Since we can't make a playable platformer without platforms, we will start by creating some platforms.



THE PLATFORMS

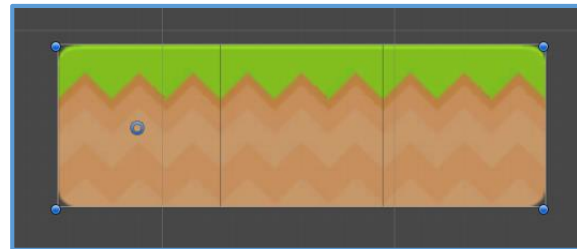
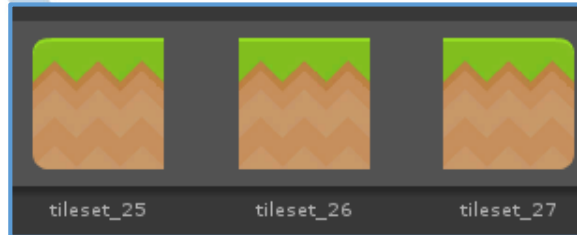
The set of tiles provided present some interesting challenges when it comes to creating platforms. If we want to create wider platforms than a single tile, we will need to join several tiles together.

This isn't as easy as slapping a collider on each tile and putting them beside each other.

1. Place tiles 25, 26 and 27 into your scene.
2. Create an empty game object and parent the 3 tiles to it. Call it "Grassy Platform".
3. Position the left-side tile at $(-0.7, 0, 0)$.
4. Position the middle tile at $(0, 0, 0)$.
5. Position the right-side tile at $(0.7, 0, 0)$.

You may have noticed that the tiles don't quite line up. This is because the edges of the tiles are positioned half on and half off of those pixels. This is a common problem whenever you're trying to line up tiles as separate objects in your game.

The solution to this is to have platforms of the desired size premade as images. You can try to do this on your own, if you wish.



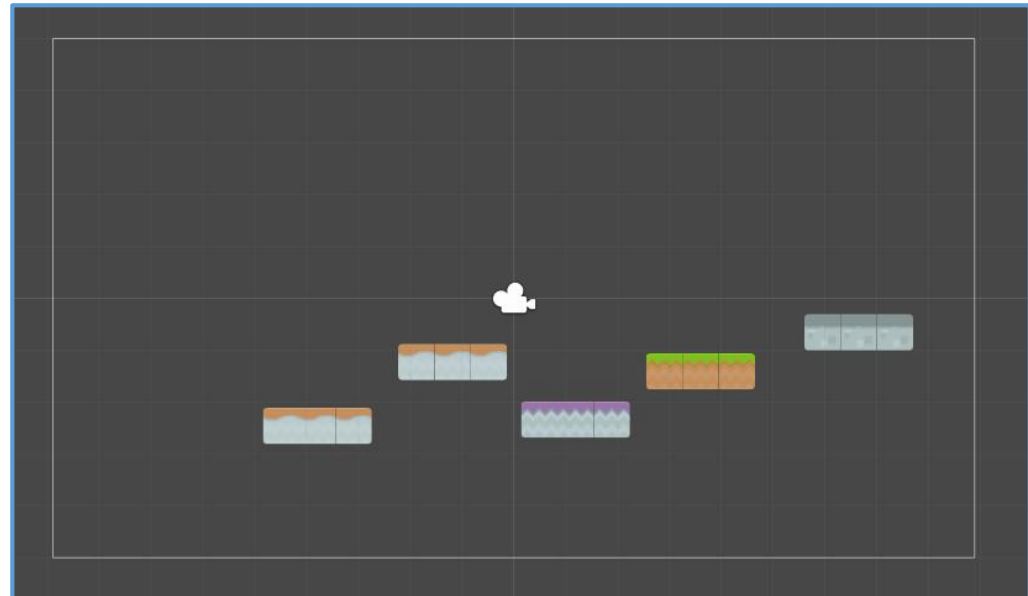
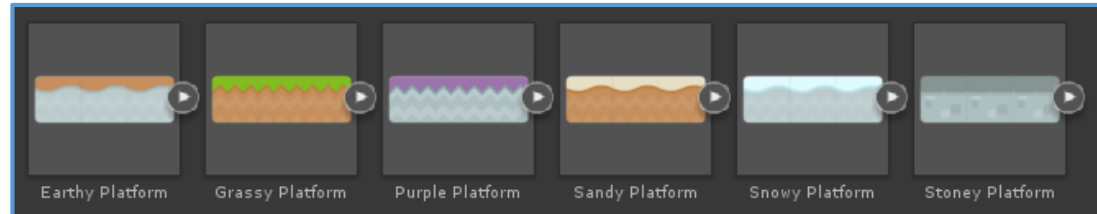
2D Platformer

Platforms and Platforming

Next, we need to add a collider to this platform. We should only have one collider on a platform, if possible. If we have one collider per tile, even if they are perfectly lined up, we will find ourselves getting stuck on some of them.

6. Add a BoxCollider2D to the “Grassy Platform”. Resize it to fit around the platform.
7. Create a Prefabs folder in the Project View.
8. Add the Grassy Platform to the Prefabs folder.
9. Repeat previous steps to create more types of platforms and add them to your Prefabs folder.
10. Create a simple platforming level with the platforms you’ve created.

Once we have a simple level to work with, we can now begin working on the character!



2D Platformer

Platforms and Platforming

THE CHARACTER

Our character will be created in two parts; the scripts that control our character and the character itself.

We will start by creating the character we will be controlling.

11. Choose one of the sprites from the sprite sheet to drag into the scene.
12. Add a BoxCollider2D to your character.
13. Add a Rigidbody2D to your character.
14. Open the Constraints section of the Rigidbody2D and Freeze Rotation on the Z-axis.

With this, the character has been setup and is ready to have scripts applied to it. This, however, will be the topic of another handout.

See the “2D Character Scripting” handout for more.

