Procedural Dungeon Generator

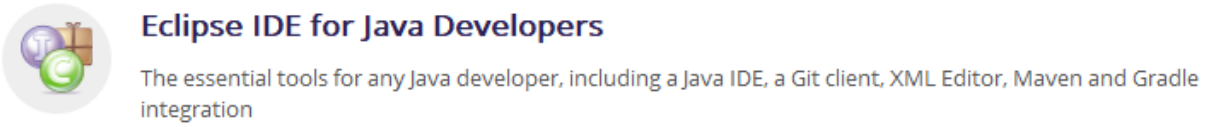
Prerequisite

Eclipse for Java

To run the two-dimensional dungeon generators, the Eclipse IDE for Java is required. To install Eclipse, click the link below and download the installer.

Eclipse Downloads | The Eclipse Foundation

Launch the installer and select to install the Eclipse IDE for Java as seen below.



From there, follow the instructions and launch the application.

Unity Engine

To run the three-dimensional generator, the Unity Editor version 2021.3.22f1, which is the current latest version is required.

First, download Unity Hub from the link below and install it.

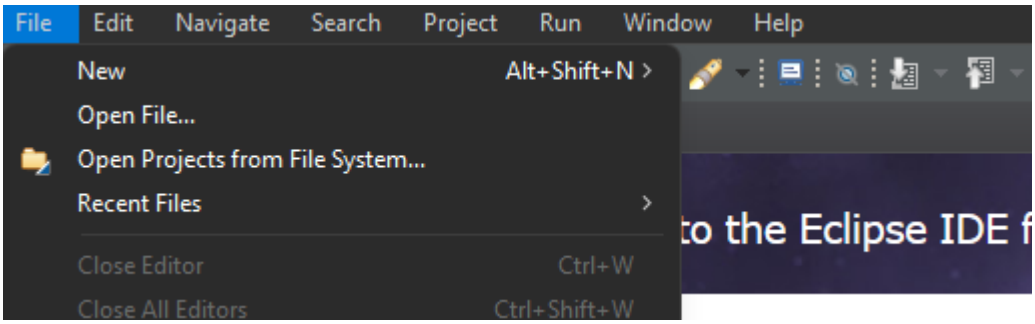
Start Your Creative Projects and Download the Unity Hub | Unity

Launch the application. From here you will need a Unity account to continue. Once you have logged in, install the Unity Editor version 2021.3.22f1.

Two-Dimensional Dungeon Generators

STEP 1:

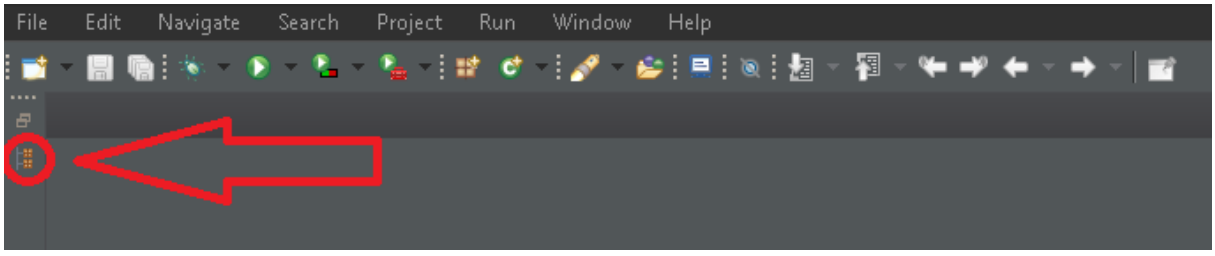
Download the Breadth_First_Dungeon and Depth_First_Dungeon files from the Java folder and uncompress them. After they have been uncompressed, navigate to the “Open Project from File System” menu which is located under “File” in the tool bar.



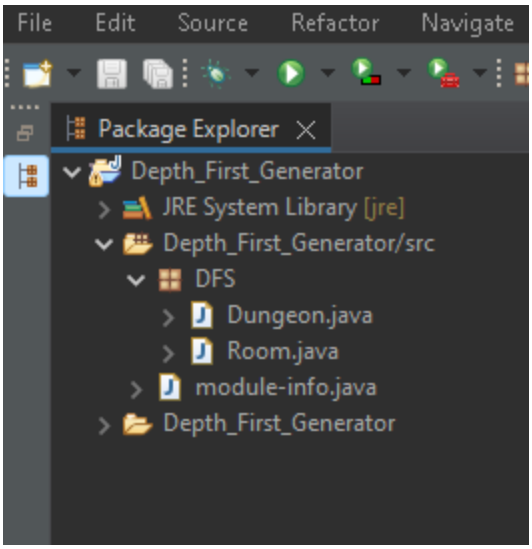
Once in this menu select the project file and open it.

STEP 2:

After the project file has been opened, Press the “package explorer” button in the top left corner of the application to view the files within the project.



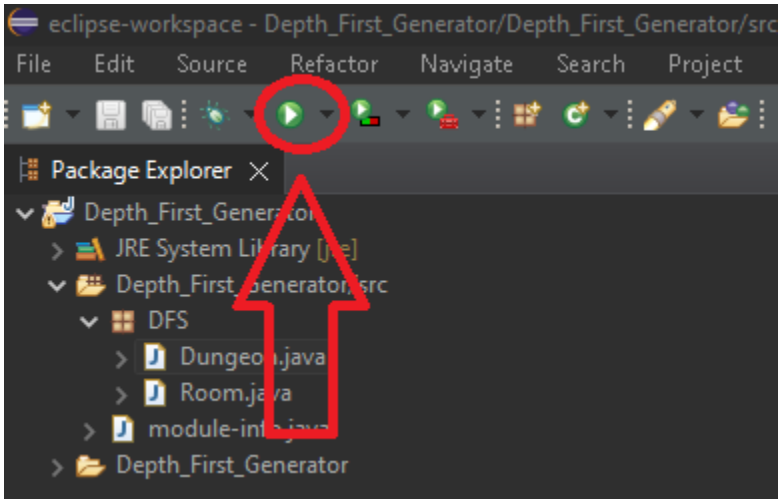
Expand the folder until you find the Dungeon.java file. In this file you can change the room_gen variable to specify the number of rooms to be generated.




```
// The room_gen variable decides how many rooms are generated
// Change this variable as required
int room_gen = 5;
```

STEP 3:

To run the code, press the green play button at the top of the application.



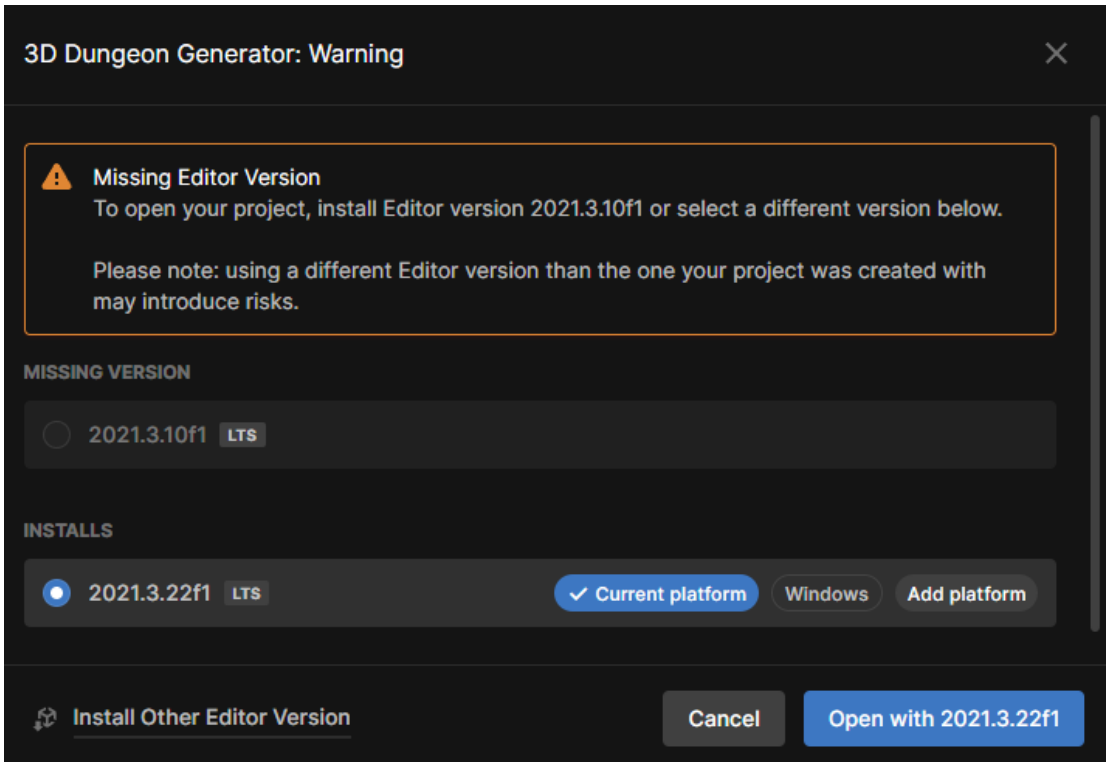
The 2D representation of the dungeon will be generated and a text file called “Dungeon.txt” will be created within the project folder. This file contains information about the generated dungeon and will be used to create the 3D representation of the dungeon in Unity.

Unity Generator

STEP 1:

Download the 3D Dungeon Generator file and uncompress it. The folder is quite large, and it may take a while. Once the file has been uncompressed, open Unity Hub and navigate to the project tab. From there click the open button and select the project folder.

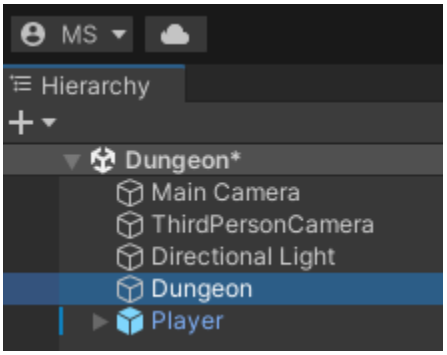
When you open the project Unity will warn you that the project runs on a different version of Unity. Ignore this warning and select the 2021.3.22f1 version we installed earlier and press “Open with 2021.3.22f1”. Unity will now attempt to update the project into this version of Unity and open the project.



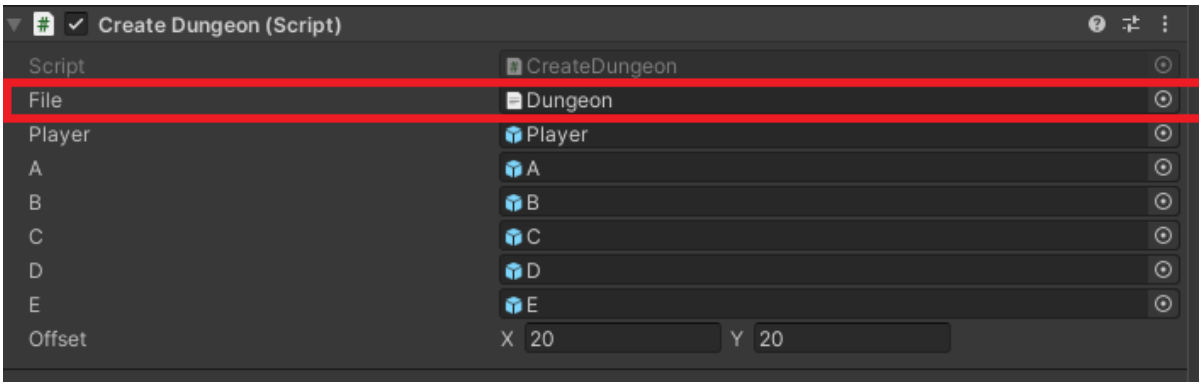
STEP 2:

Once the project has been opened. You can run the project by pressing the play button at the top. A Dungeon.txt file has already been provided and it should be compiled with no errors. To create other dungeons, the Dungeon.txt file can be replaced. To do this, move the Dungeon.txt file created by the 2D generators into the asset folder of the project. The text files can also be renamed if you want to save multiple text files.

To change the text file that will be used to generate the dungeon, first select the Dungeon object in the Hierarchy tab on the top left side of the application.



Once you select the Dungeon object, an inspector tab should appear on the right side of the screen. In the inspector, drag the text file you selected onto the File field inside of the Create Dungeon Tab.



STEP 3:

Once the project runs, the player can explore the dungeon by moving using the WASD keys. W moves the character forward, A moves the character to the left, S moves the character backwards and D moves the character to the right. The camera can be moved by using your mouse. Additionally, you can also view the dungeon from the outside by shifting to the Scene tab. From here you can use your mouse to the desired angle.