RPG, part 1

Starting Point

The RPG repository. (Godot 4.5 version is in the branch 4.5)

Make a fork of the repository you will push your work in. This is **NECESSARY** for completing the project (homework in a future class).

Steps

Examine the solution and read through the scripts so you have an understanding how the movement works. Especially pay attention to the collision detection code.

Camera following the player

The camera should follow the player (i.e. have the same position). It could be done either by making the camera node a child of the player node, or by attaching a script which periodically sets the position (which is more flexible, makes further modifications to the camera behavior easier).

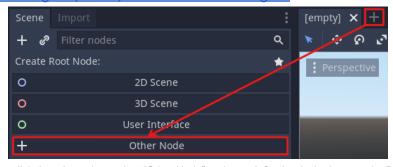
Task 1 - Camera, with a script such that it follows player.

Task 1.1 - Give an export property to the script, such that you can select in Inspector which object to follow.

Task 1.2 (bonus) - Make the camera follow the player smoothly.

Relevant resources:

NodePath — Godot Engine (stable) documentation in English
Node — Godot Engine (stable) documentation in English
Camera2D — Godot Engine (stable) documentation in English



To create a new scene, click the + icon, then select "Other Node" and search for the desired root node. Don't forget to save the scene.

TileMap Collisions

Some of the objects should be colliding in the world, so that the player cannot walk through e.g. trees and the house.

The tilemaps in Godot 4 became quite powerful, and you can set various attributes to each tile, such as a collision shape. A simple full-square collider should work for us.

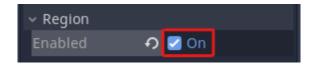
Task 2 - Open the WorldTileset resource and set colliders on everything you don't want the player to be able to walk through.

Relevant resources:

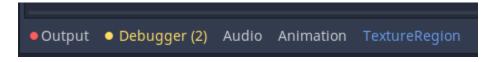
<u>Using TileMaps — Godot Engine (stable) documentation in English Using TileSets — Godot Engine (stable) documentation in English</u>

Collectible coins

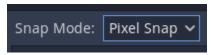
Coins are placed in the world, but aren't collectible. Whenever the player overlaps with the coin, it should be collected (the player's state is updated and the coin disappears).



When selecting a sprite from a spritesheet, set the region of it's texture.



Enable pixel snapping for easy selection.



Task 3 - Create a collectible coin. Store the amount of coins in the PlayerState class.

Relevant resources:

Area2D — Godot Engine (stable) documentation in English

Using Area2D — Godot Engine (stable) documentation in English

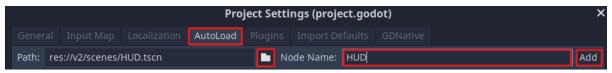
Node — Godot Engine (stable) documentation in English (is in group () method)

GUI for coins count

The number of collected coins should be displayed in the HUD.

scenes/HUD.tscn - A scene with the GUI is already prepared. It just needs to be added to AutoLoad.

Task 4 - Create a script for the HUD. Add methods for updating health and coins total. It shall be accessible via autoload (add just the scene, not the script). Have it update whenever a coin is collected.



Relevant resources:

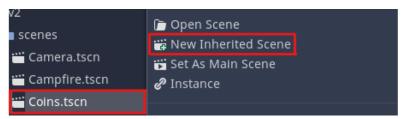
Singletons (AutoLoad) — Godot Engine (stable) documentation in English Autoloads/ Singletons :: Godot Recipes (kidscancode.org)

Label — Godot Engine (stable) documentation in English

Experiment with Coins

There should be different variants of coins with different sprites and different values.

You may have noticed CoinsMedium and CoinsLarge are inherited scenes. This is how you create those.



To create an inherited scene, right click the base scene in the FileSystem panel and select "New Inherited Scene".

Be mindful of this, inherited scenes may be hard to notice, so always think if it is the proper solution.

Task 5 - Rework coins so they are only one Scene, that dynamically changes it's Sprite based on the amount (I mean, change the region in the Sprite2D).

Relevant resources:

Inheritance:: Godot Recipes (kidscancode.org)

Useful resources

Step by step — Godot Engine (stable) documentation in English

GDScript — Godot Engine (stable) documentation in English

Applying object-oriented principles in Godot — Godot Engine (stable) documentation in English

Assets sources

Kenney • Roguelike/RPG pack
Kenney • Roguelike Characters
Kenney • Tappy Plane