





#### THIRD SPRITES TASK



#### Description

In this project we will work with a game that uses different programming and videogames concepts, such as the use of sprites, functions or colour tilemap and replacing this colours with different sprites. Also, we will learn about sprite animation, interactions between sprites and more instructions that improve the game.

#### Goals

- Create a "Hero" sprite which we can control its movement and do different types of jumps.
- Draw a map with colours where each colour will be replaced by different game elements.
- Program functions for the different game sections.
- Animate the coins that will appear on screen.
- Generate various levels.
- Apply physical elements to the Sprite that we will control.







## Programming guide

NEW PROJECT			
We start creating a project, we should stablish the name, for example "Picking up food" and then press "create" button.	My Projects View All mi pri New Project New Project Create a Project Give your project a name. Create a Project a name. Create a Project a name.		
ASSETS CREATION			
Sprite Player Creation			
We create one sprite with 16 x 16 px dimensions. We create in "Assets" and then we look for a sprite that we like in "Gallery". After that we click on "Done"			







ON START GAME CRETION			
To get the "set tile map to" on "Scene" available, we will search the extension clicking on "Advanced" and inside it, we will have to click on the "Extensions" section. Once we are in the "Extensions" we will select "color-coded-tilemap".	Search Q ✓ Sprites Controller ● Game ← Music ♣ Scene EI Info C Loops > Logic		

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	e lo luit Extensions ?
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On "set tile map to", we will colour the level to place the different elements: <ul> <li>Black = Floor</li> <li>Brown = Obstacles</li> <li>Blue = Water</li> <li>Yellow = Coin</li> <li>Orange = Trap</li> <li>White = Starting point</li> <li>Red = Final goal</li> </ul>	
We will create a "Start Scene" function of the "Functions" tab.	Edit Function

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Explanatory gif of how to introduce the "array of all [] tiles" block.	<pre>Search Q Sprites Search Gume Gume Search S</pre>	
JUMPING MECHANIC		
We will program that when we press the "A" button, our character jumps. It can always jump as long as it is on the ground, but in the air it will only be able to do it once more. We will establish the jumping control using the "jump" variable. If jump is equal to 0, we can jump in the air, if not will not be able to do it.	<pre>on A ▼ button pressed ▼ if is Heroe ▼ hitting wall bottom ▼ then set Heroe ▼ vy (velocity y) ▼ to -150 else if salto ▼ = ▼ 0 then set Heroe ▼ vy (velocity y) ▼ to -150 set salto ▼ to 1 </pre>	
Inside a "forever" loop we will set that when touching the floor, the "jump" variable will reset to 0, to being able to jump again the next time we found ourselves in the air.	forever if is Heroe ▼ hitting wall bottom ▼ then set salto ▼ to 0 	







INTERACTIONS		
We will program that when we overlaps the water, we lose the game.	on sprite of kind Player  overlaps at location game over LOSE	
Also, if we overlaps the fire orbs, we will lose the game too.	on sprite of kind Player  overlaps at location game over LOSE	
When our controlled Sprite overlaps a type coin Sprite, these ones will disappear, our score will increase and a obtain coin sound will be produced.	on sprite of kind Player • overlaps otherSprite of kind moneda • destroy otherSprite with confetti • effect for 500 • ms • play sound ba ding • change score by 1	
We will activate the functions calling them inside the "on start" block to start the previous programming.	on start set cambioNivel V to 0 set Heroe V to sprite for of kind Player V camera follow sprite Heroe V set Heroe V ay (acceleration y) V to 300 move Heroe V with buttons vx 100 vy 0 O set tile map to O call inicarEscenario call iniciarAnimacionMoneda call iniciarObjetivos	







	on sprite of kind Player  verlaps otherSprite of kind Meta
	if cambioNivel V = V 0 then
	splash "Nivel superado"
	change cambioNivel 🔻 by 1
	set tile map to
When the player overlaps the flag for	
the first time, a level change will be	call inicarEscenario
made	call iniciarAnimacionMoneda
	call iniciarObjetivos
	else
	splash "Has terminado el juego" 🕣
	game over WIN with slash - effect $\bigcirc$

With this programming we will use the type "Player" sprite to get over the obstacles to reach the goal and getting points as we touch the different coins located all around the scene. If we fall into the water or we touch a red orb, the game will finish.

Also, when crossing the goal for the first time, we will access to a new level.