



# Disciplina: T166 – Experimentação de Protótipos

## Jogo de Plataforma – Parte III

Profa. Ma. Karoline Rodrigues Lima

# Sumário

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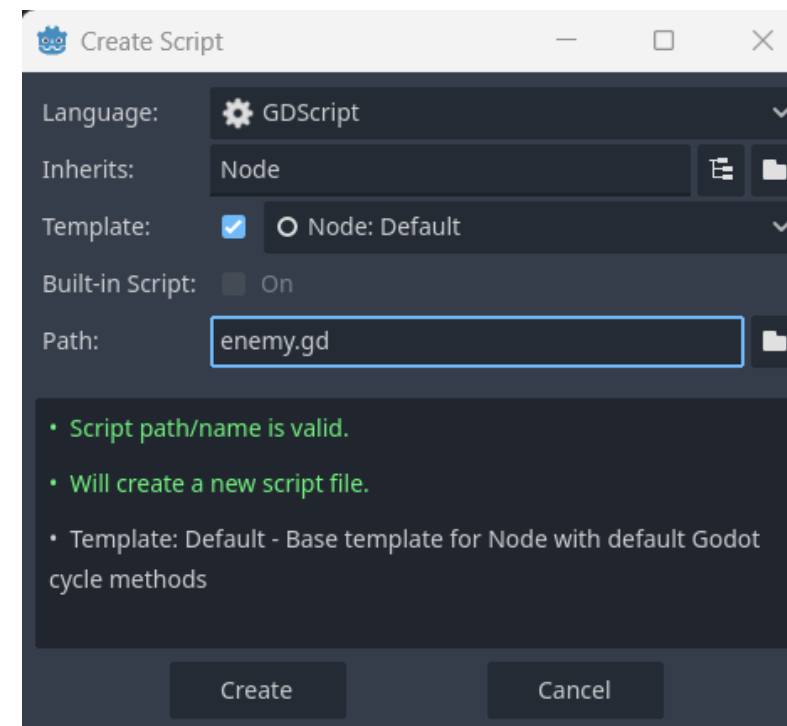
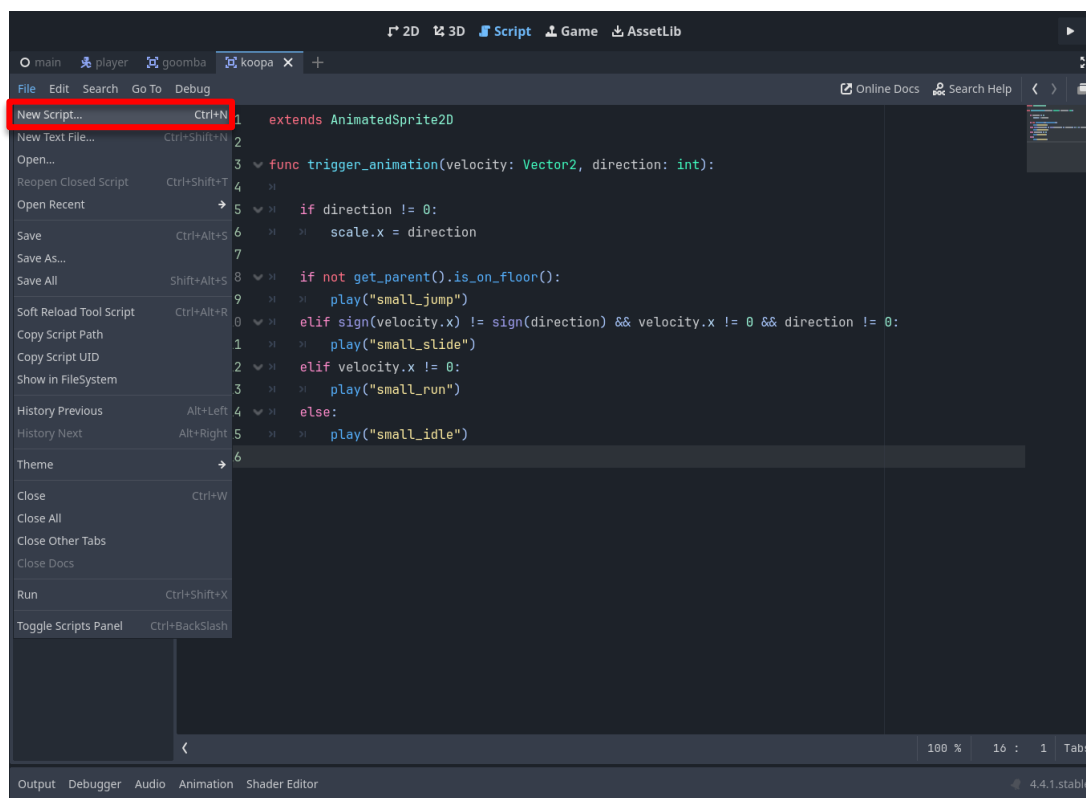


- 1 Script: Enemy
- 2 Script: Goomba
- 3 Script: Koopa



# 1 Script: Enemy

- Na tela Script → Clicar em File → New Script
  - *Renomear script para Enemy → Create*





# 1 Script: Enemy

---

```
1  extends Area2D
2
3  class_name Enemy
4
5  @export var h_speed = 20.0
6  @export var v_speed = 100.0
7  @onready var ray_cast_2d = $RayCast2D
8  @onready var animated_sprite_2d = $AnimatedSprite2D
9
10  func _process(delta):
11      position.x -= h_speed * delta
12      if !ray_cast_2d.is_colliding():
13          position.y += v_speed * delta
14
```



# 1 Script: Enemy

---

- Clicar em Goomba → Attach Script

```
1  extends Enemy
2
3  class_name Goomba
4  |
```



# 1 Script: Enemy

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- Clicar em Koopa → Attach Script

```
1  extends Enemy
2
3  class_name Koopa
4  |
```

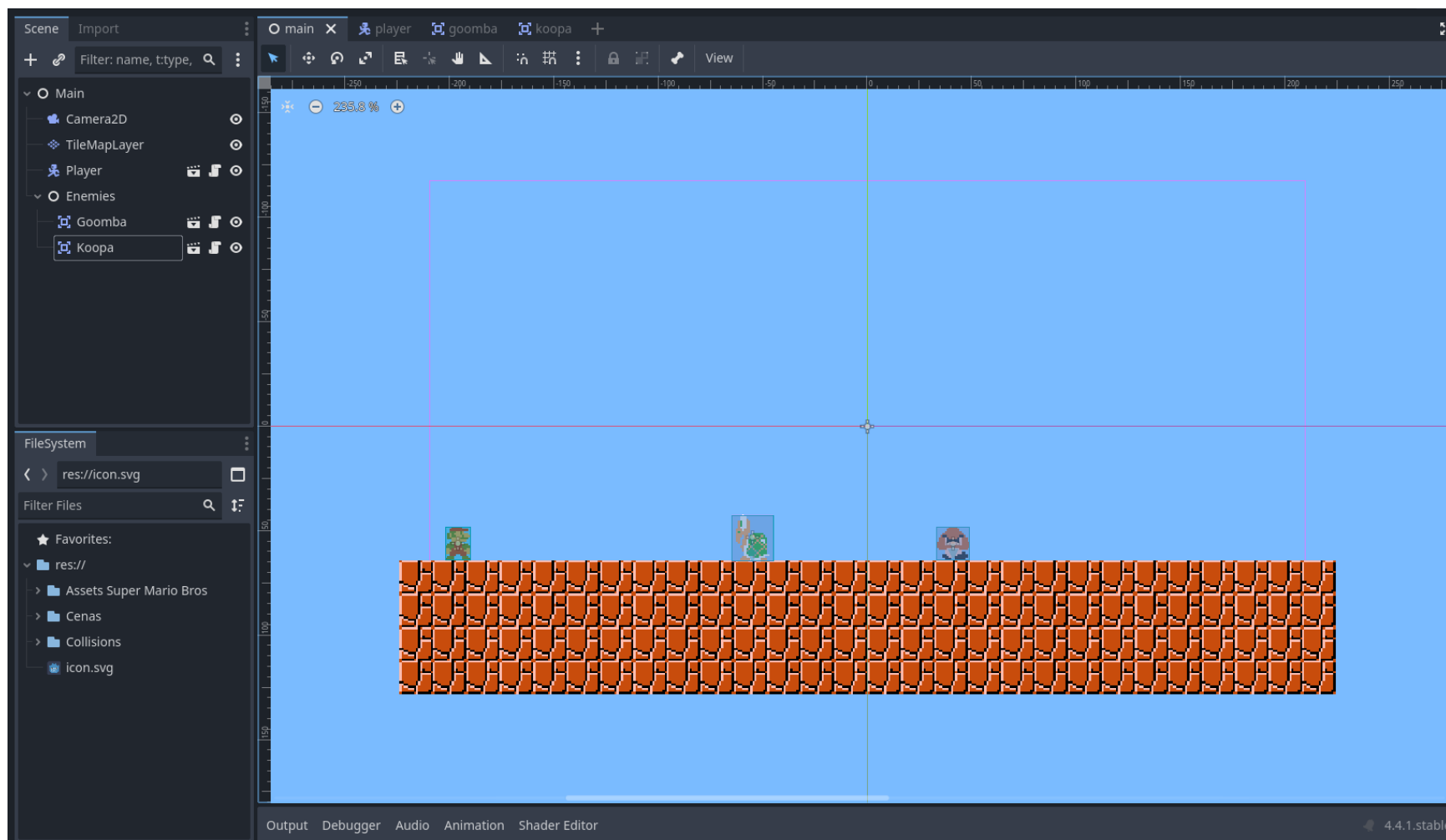


# 1 Script: Enemy

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- Na cena Main, clicar com o botão direito em *Main*
  - *Add Child Node* → *Node* (Renomear para *Enemies*)
  - *Clicar com o botão direito em Enemies* → *Instantiate Child Scene* → *Goomba*
  - *Clicar com o botão direito em Enemies* → *Instantiate Child Scene* → *Koopa*
  - *Posicionar o Goomba e Koopa no cenário*

# 1 Script: Enemy







# 1 Script: Enemy

- Acrescentar ao script enemy.gd

```
10 func _process(delta):
11     position.x -= h_speed * delta
12     if !ray_cast_2d.is_colliding():
13         position.y += v_speed * delta
14
15 func _die():
16     h_speed = 0
17     v_speed = 0
18     animated_sprite_2d.play("dead")
19
20 func _die_from_hit():
21     h_speed = 0
22     v_speed = 0
23     rotation_degrees = 180
24
25     set_collision_layer_value(3, false)
26     set_collision_mask_value(1, false)
27
28     var die_tween = get_tree().create_tween()
29     die_tween.tween_property(self, "position", position + Vector2(0, -25), .2)
30     die_tween.chain().tween_property(self, "position", position + Vector2(0, 500), 4)
31
```



## 2 Script: Goomba

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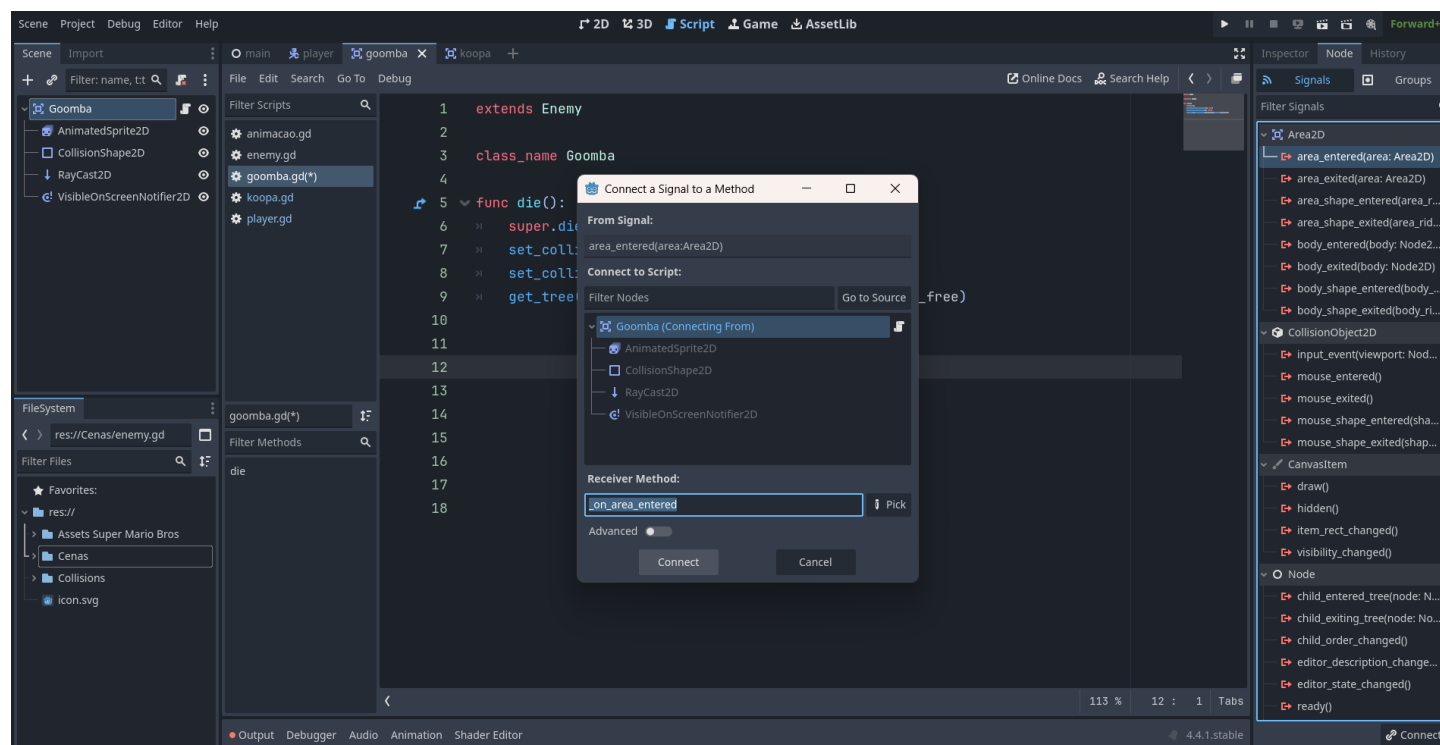
- Acrescentar ao script goomba.gd

```
1  extends Enemy
2
3  class_name Goomba
4
5  func _die():
6      >| super._die()
7      >| set_collision_layer_value(3, false)
8      >| set_collision_mask_value(1, false)
9      >| get_tree().create_timer(0.5).timeout.connect(queue_free)
```



## 2 Script: Goomba

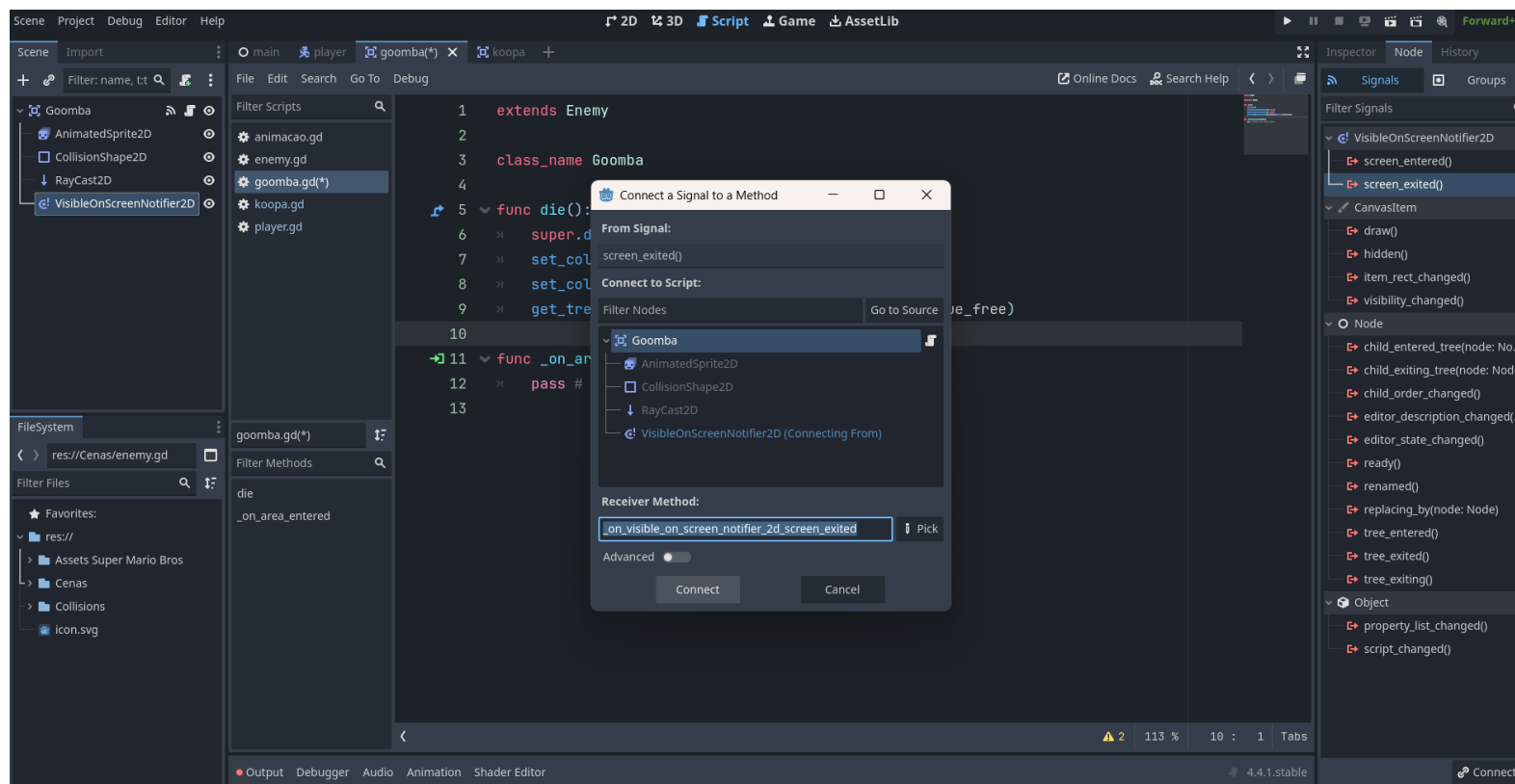
- Na cena Goomba, clicar em Goomba → Aba Node → Area2D → Clicar com o botão direito em `area_entered()` → Selecionar Goomba → Connect



## 2 Script: Goomba



- Na cena Goomba, clicar em VisibleOnScreenNotifier2D → Aba Node → Area2D → Clicar com o botão direito em screen\_exited() → Selecionar Goomba → Connect





## 2 Script: Goomba

- Acrescentar ao script goomba.gd

```
1  extends Enemy
2
3  class_name Goomba
4
5  func _die():
6      >| super._die()
7      >| set_collision_layer_value(3, false)
8      >| set_collision_mask_value(1, false)
9      >| get_tree().create_timer(0.5).timeout.connect(queue_free)
10
11  func _on_area_entered(area):
12      >| if area is Koopa and (area as Koopa).in_a_shell and (area as Koopa).h_speed != 0:
13          >| >| _die_from_hit()
14
15  func _on_visible_on_screen_notifier_2d_screen_exited():
16      >| queue_free()
17
```

# 3 Script: Koopa



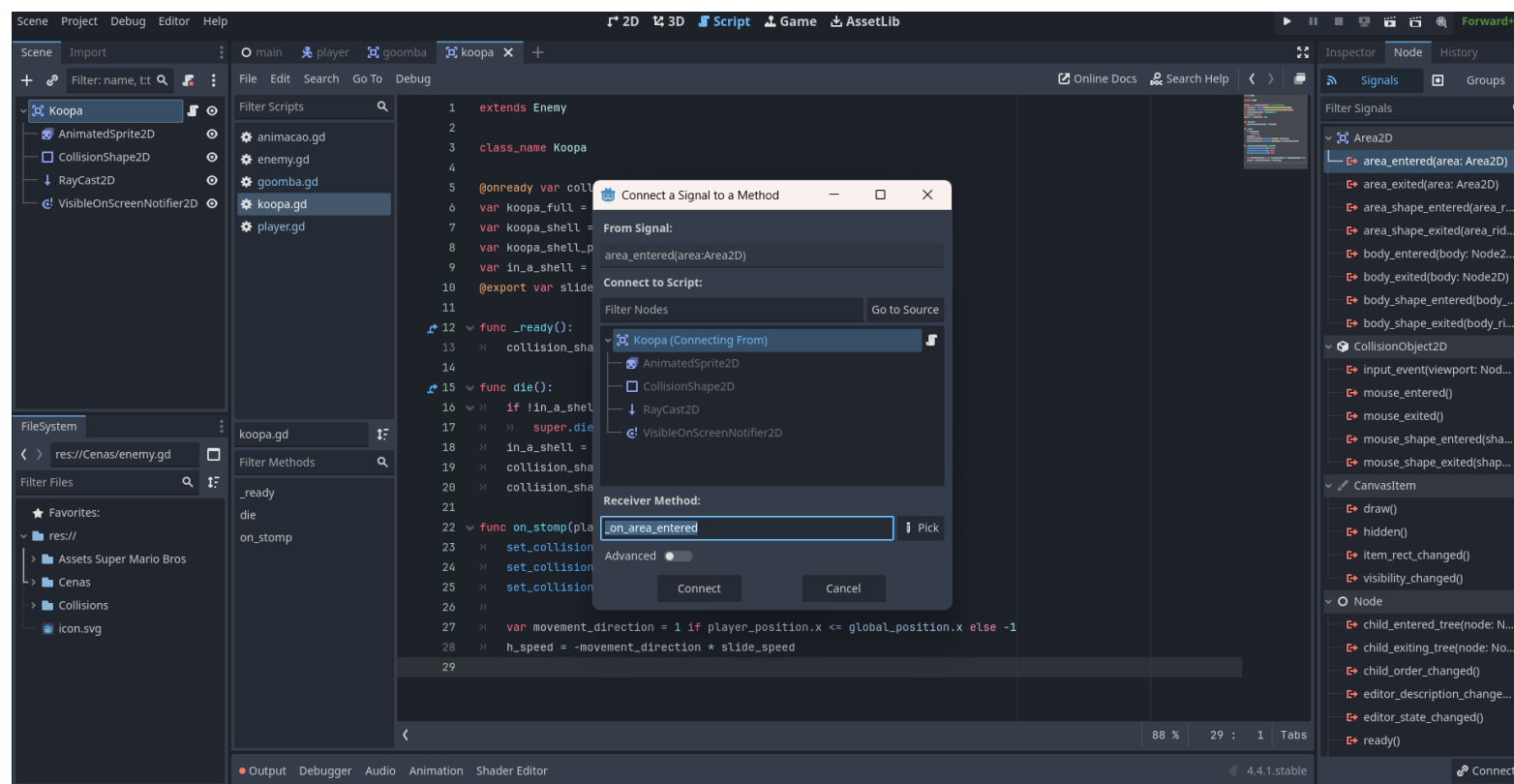
- Acrescentar ao script koopa.gd

```
1 extends Enemy
2
3 class_name Koopa
4
5 @onready var collision_shape_2d = $CollisionShape2D
6 var koopa_full = preload("res://Collisions/koopa_full.tres")
7 var koopa_shell = preload("res://Collisions/koopa_shell.tres")
8 var koopa_shell_position = Vector2(0, 5)
9 var in_a_shell = false
10 @export var slide_speed = 200
11
12 func _ready():
13     collision_shape_2d.shape = koopa_full
14
15 func _die():
16     if !in_a_shell:
17         super._die()
18     in_a_shell = true
19     collision_shape_2d.set_deferred("shape", koopa_shell)
20     collision_shape_2d.set_deferred("position", koopa_shell_position)
21
22 func _on_stomp(player_position: Vector2):
23     set_collision_layer_value(3, false)
24     set_collision_mask_value(1, false)
25     set_collision_layer_value(4, true)
26     set_collision_mask_value(3, true)
27
28     var movement_direction = 1 if player_position.x <= global_position.x else -1
29     h_speed = -movement_direction * slide_speed
```



## 3 Script: Koopa

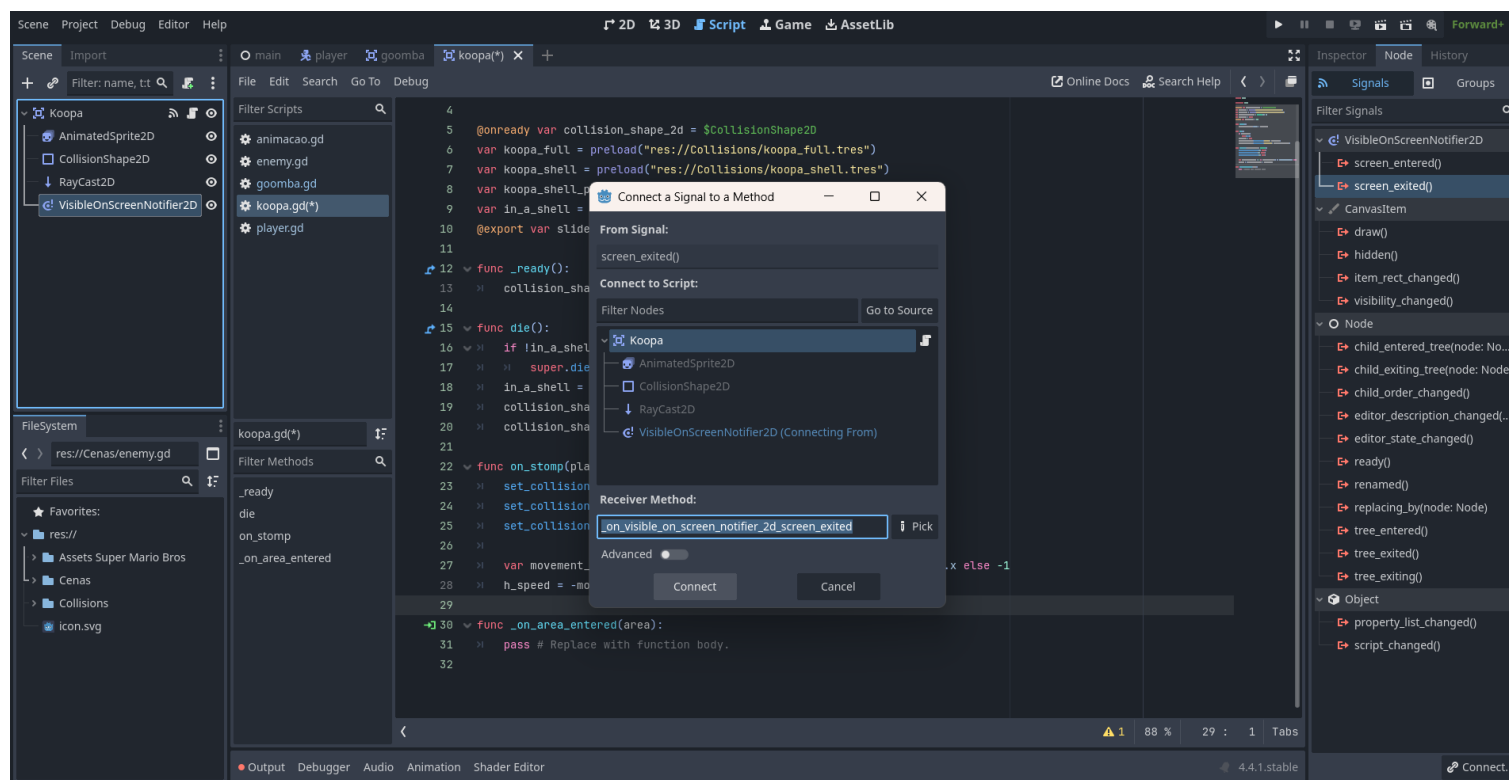
- Na cena Koopa, clicar em Koopa → Aba Node → Area2D → Clicar com o botão direito em `area_entered()` → Selecionar Koopa → Connect





### 3 Script: Koopa

- Na cena Koopa, clicar em VisibleOnScreenNotifier2D → Aba Node → Area2D → Clicar com o botão direito em screen\_exited() → Selecionar Koopa → Connect







## 3 Script: Koopa

- Acrescentar ao script koopa.gd

```
22  ▾ func _on_stomp(player_position: Vector2):  
23      >| set_collision_layer_value(3, false)  
24      >| set_collision_mask_value(1, false)  
25      >| set_collision_layer_value(4, true)  
26      >| set_collision_mask_value(3, true)  
27      >|  
28      >| var movement_direction = 1 if player_position.x <= global_position.x else -1  
29      >| h_speed = -movement_direction * slide_speed  
30  
31  ▾ func _on_area_entered(area):  
32  ▾ >| if area is Koopa and (area as Koopa).in_a_shell and (area as Koopa).h_speed != 0:  
33      >| >| _die_from_hit()  
34  
35  ▾ func _on_visible_on_screen_notifier_2d_screen_exited():  
36      >| queue_free()  
37
```



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