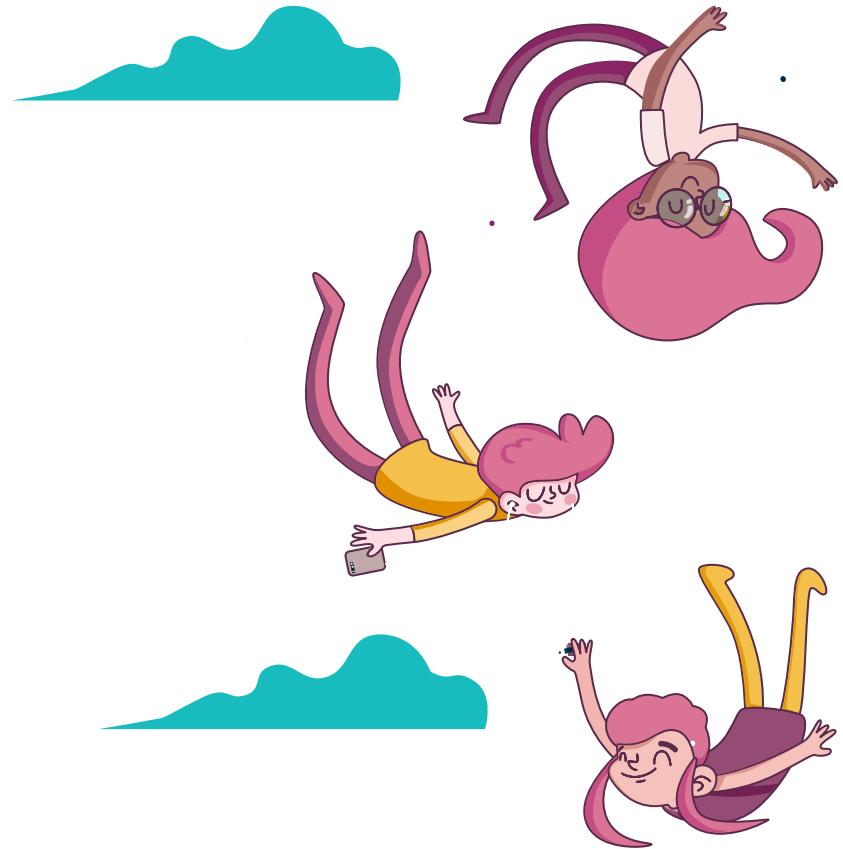


# Aprendendo a programar com as tartarugas

Python para crianças 





**Juliany Raiol**

Desenvolvedora de Backend

@julianyraiol



**Rafaela Sousa**

Analista de IA

@rafaelaprm

# Hora do Código

Um movimento global em +  
de 180 países



# Hora do Código

**Ampliar a participação no campo da ciência da computação**



# MakerSpace Manaus

**Espaço em Manaus para o ensino de tecnologia para crianças e adolescentes por meio de atividades práticas.**



# **Escola Estadual Barão do Rio Branco**

**~ 10 a 12 anos**

## **Alunos que participaram**



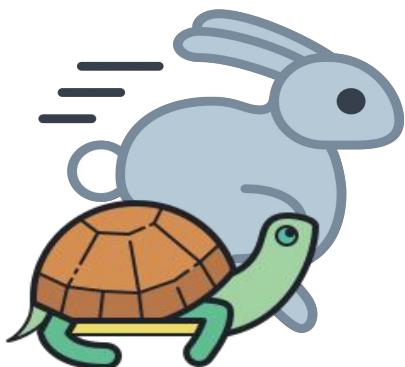
**Como desenvolver uma  
atividade interessante  
envolvendo Python para  
crianças do ensino  
fundamental?**



**Quem é que não gosta de  
ouvir uma boa história?**



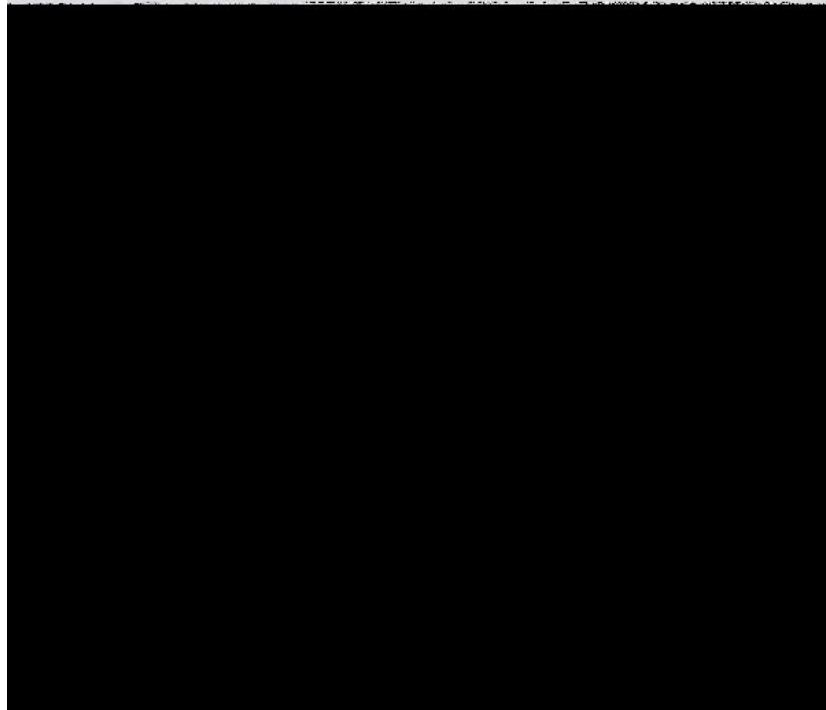
# Python para crianças



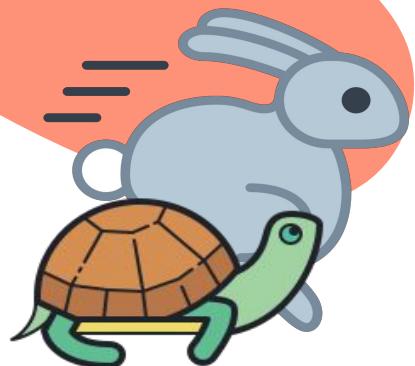
Fábula da Tartaruga  
e a Lebre + Módulo  
Turtle

→ import turtle

- ◆ Módulo Turtle
- ◆ A Lebre e a Tartaruga



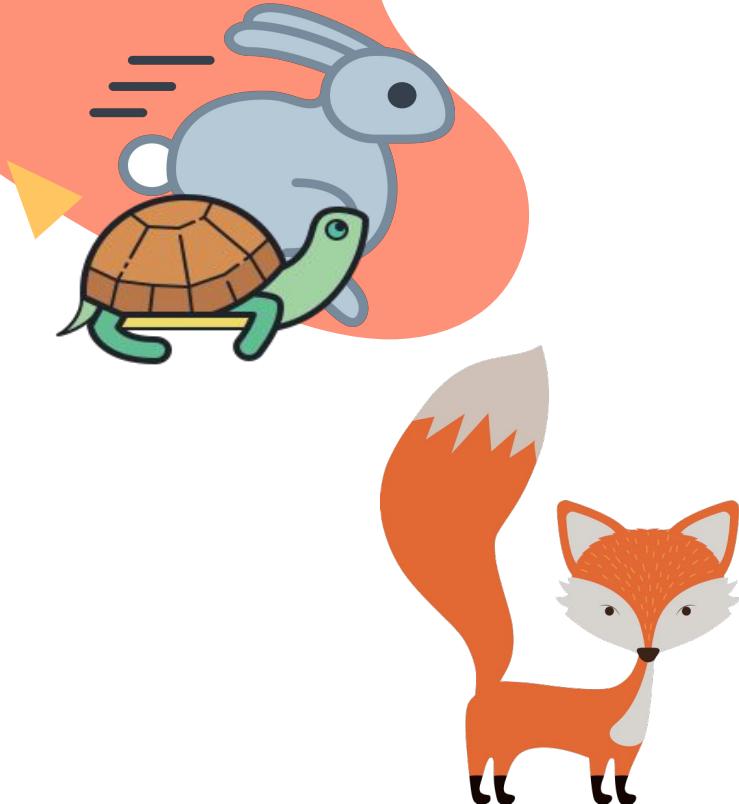
# A Lebre e a Tartaruga



Um certo dia, numa floresta, a lebre riu da lentidão da tartaruga.

A tartaruga, sorridente, respondeu: “Se estivéssemos em uma corrida, eu venceria”.

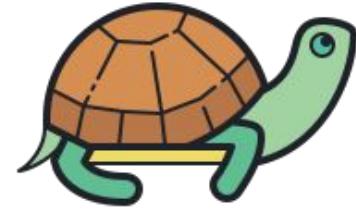
# A Lebre e a Tartaruga



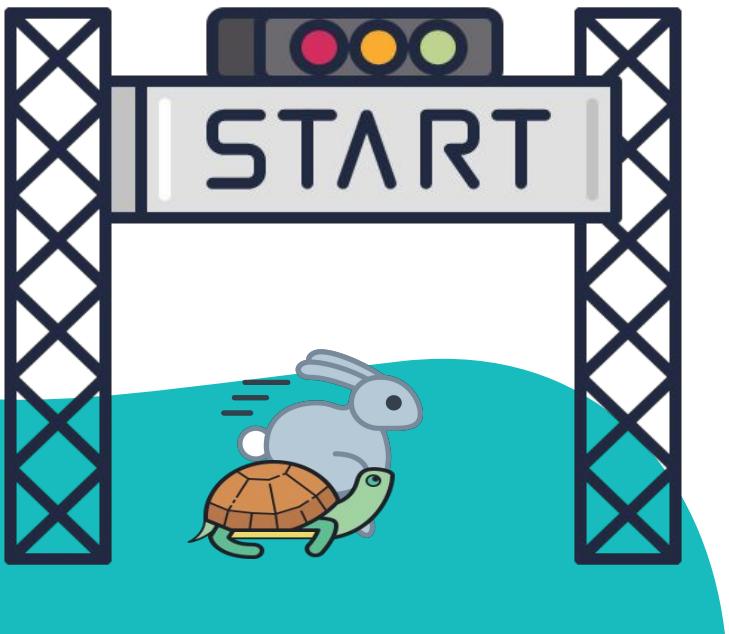
A lebre aceitou o desafio, confiante de sua vitória.

Eles convidaram a raposa para ser a juíza da competição, além de definir o trajeto e o ponto de chegada.

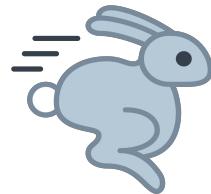
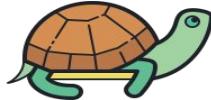
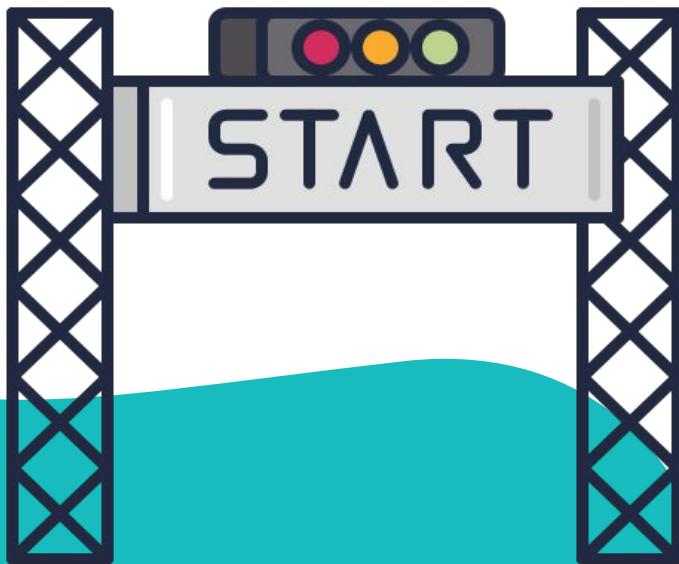
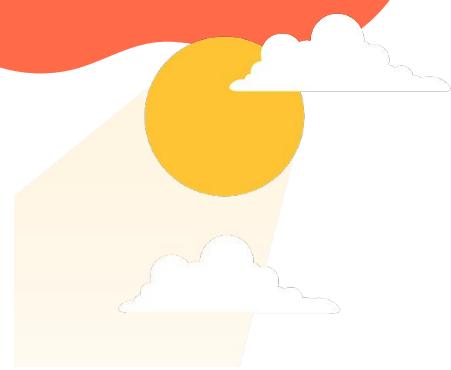
# Vamos ajudar a tartaruga com programação?



# Largada!



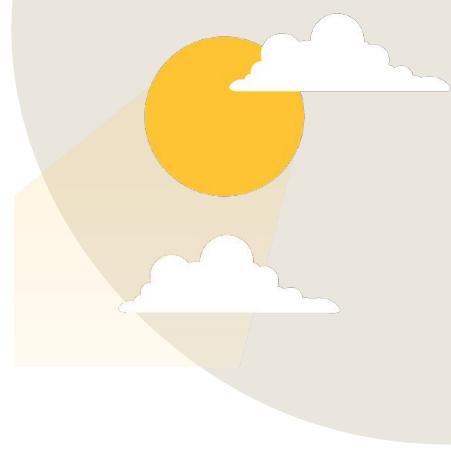
# Largada!



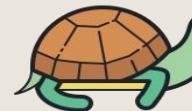
```
turtle.Screen()  
turtle.shape('turtle')  
turtle.color('darkgreen')  
turtle.speed('slowest')  
  
# ======  
# 1: Largada  
  
turtle.forward(200)
```



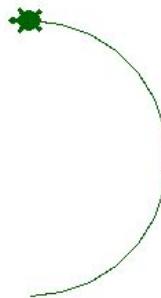
# Dando a volta no abismo...



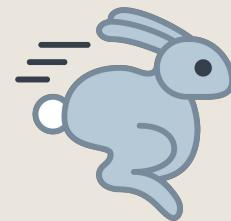
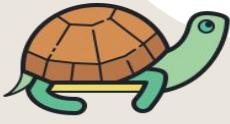
# Dando a volta no abismo...



```
turtle.Screen()  
turtle.shape('turtle')  
turtle.color('darkgreen')  
turtle.speed('slowest')  
  
# ======  
# 2: Dando a volta no abismo  
  
turtle.circle(100,180)
```



# Pulando pedras



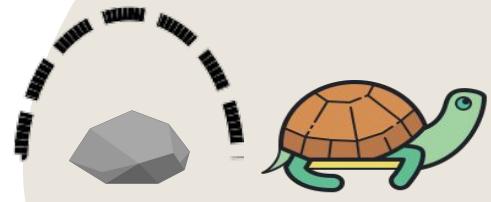
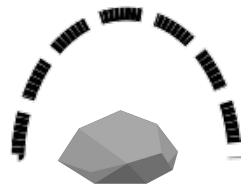
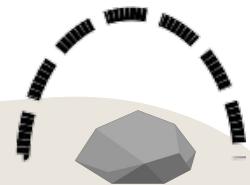
# Pulando pedras



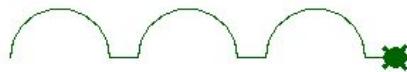
# Pulando pedras



# Pulando pedras



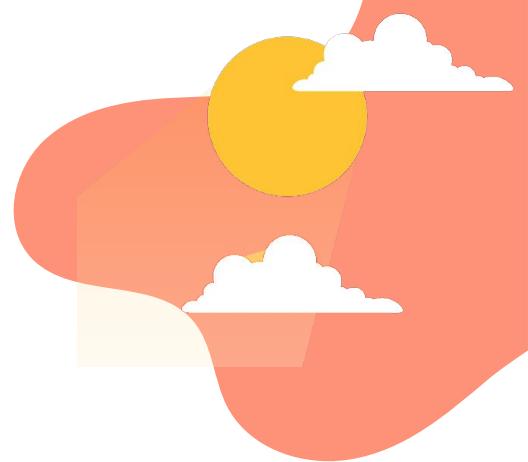
```
turtle.Screen()  
turtle.shape('turtle')  
turtle.color('darkgreen')  
turtle.speed('slowest')  
  
# ======  
# 3: Pulando pedras  
  
def turtle_jump(n=1):  
    for i in range(1, n+1):  
        turtle.right(90)  
        turtle.circle(35, -180)  
        turtle.right(90)  
        turtle.forward(20)  
  
turtle_jump(3)
```



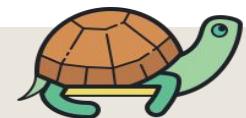
# A lebre estava na frente e aproveitou para dormir...



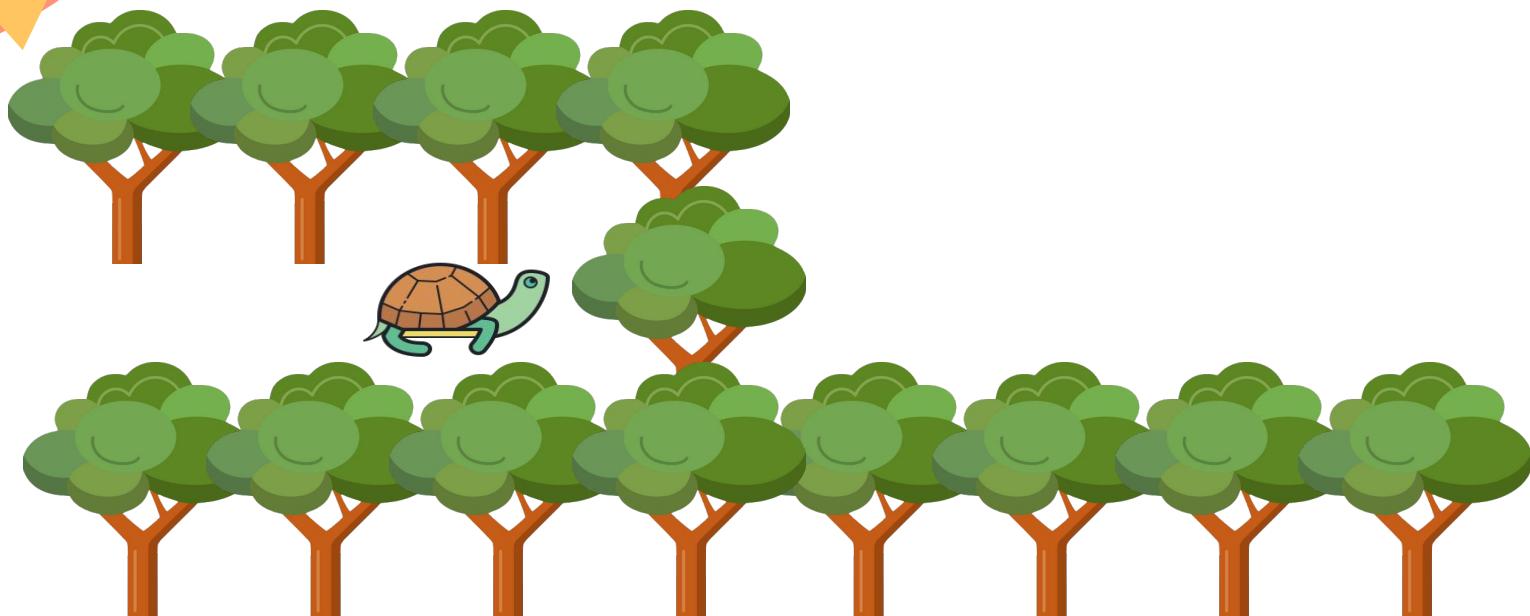
A lebre estava na frente e aproveitou  
para dormir...



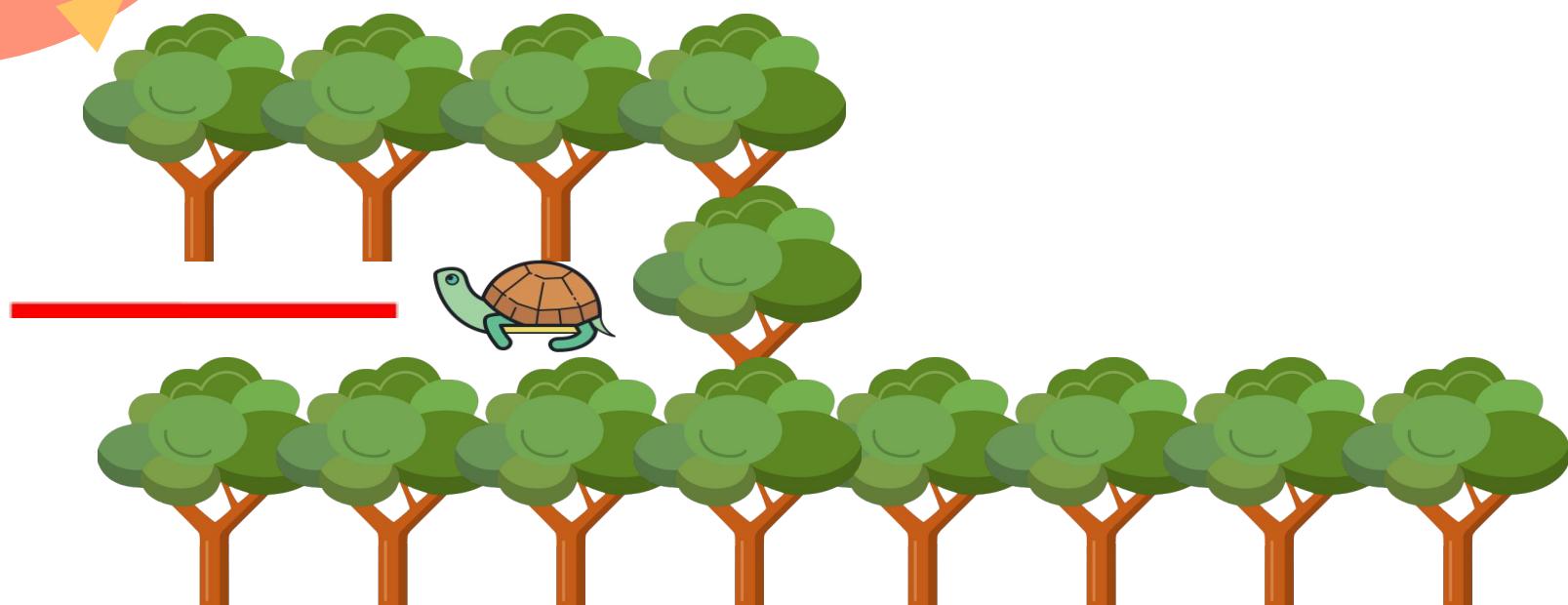
Mas a tartaruga continuou



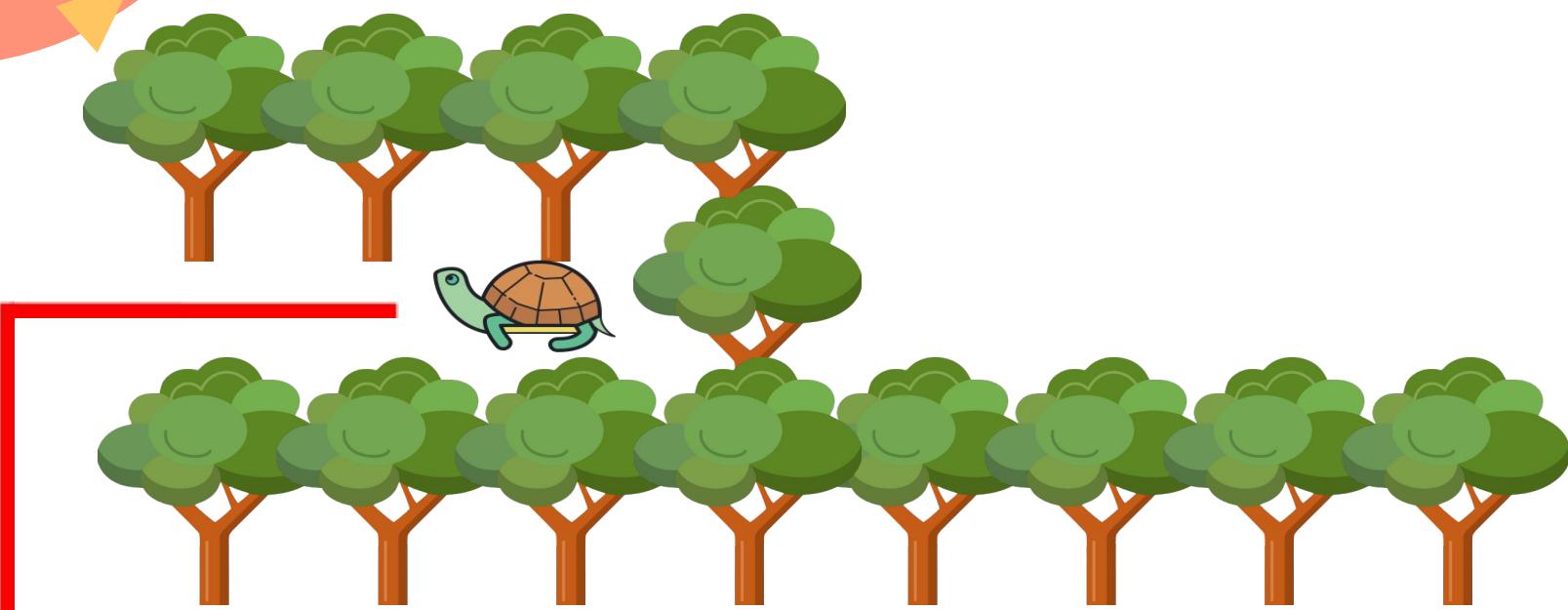
# Contornando o beco sem saída



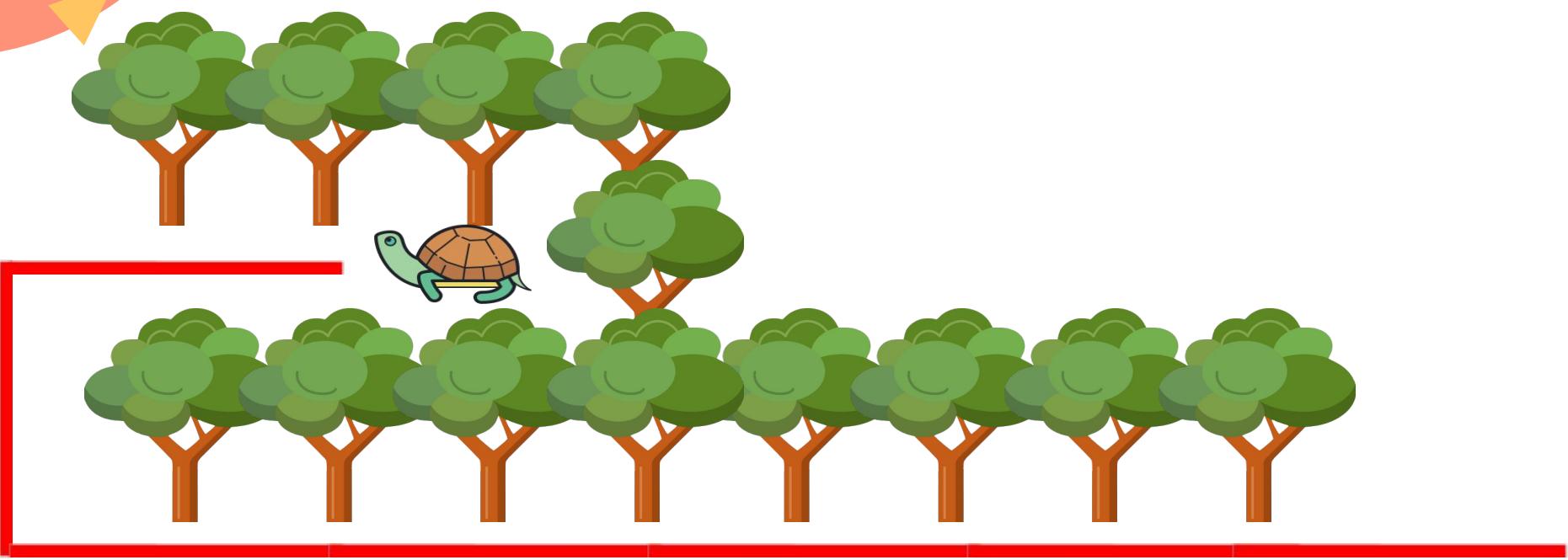
# Contornando o beco sem saída



# Contornando o beco sem saída



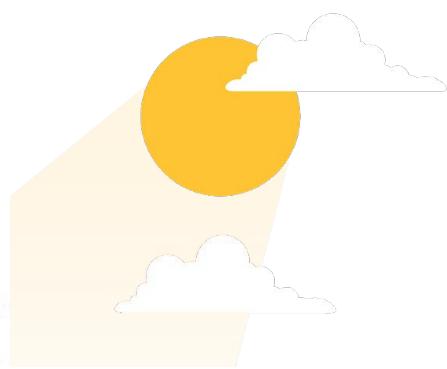
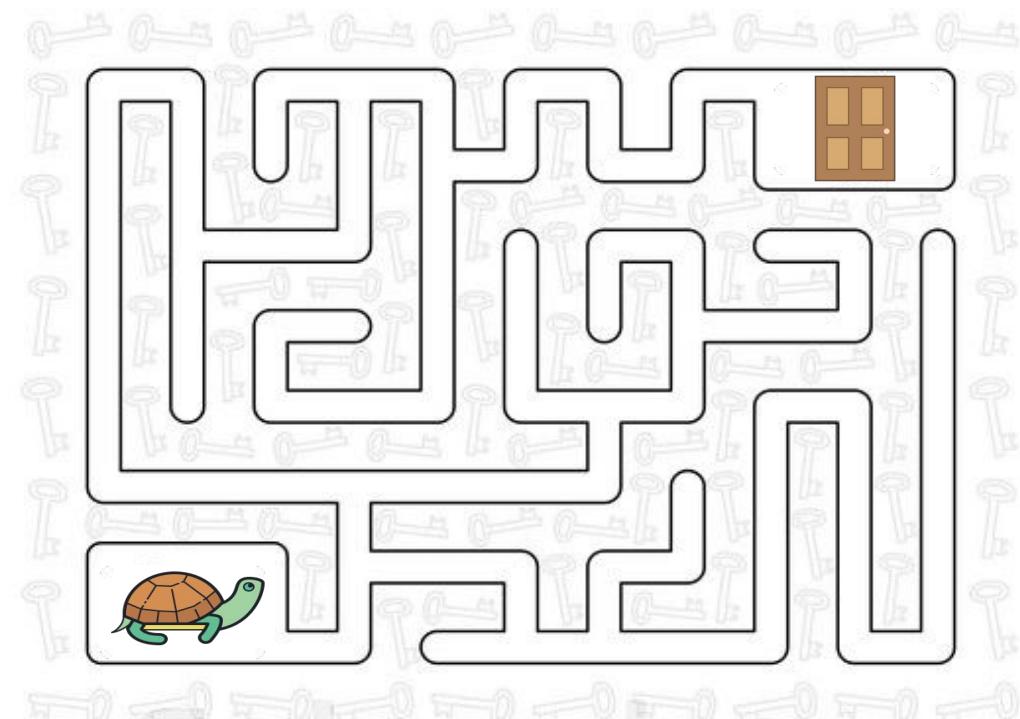
# Contornando o beco sem saída



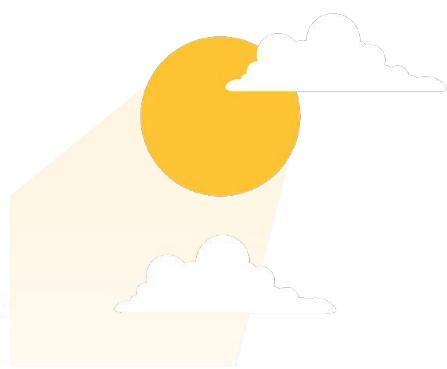
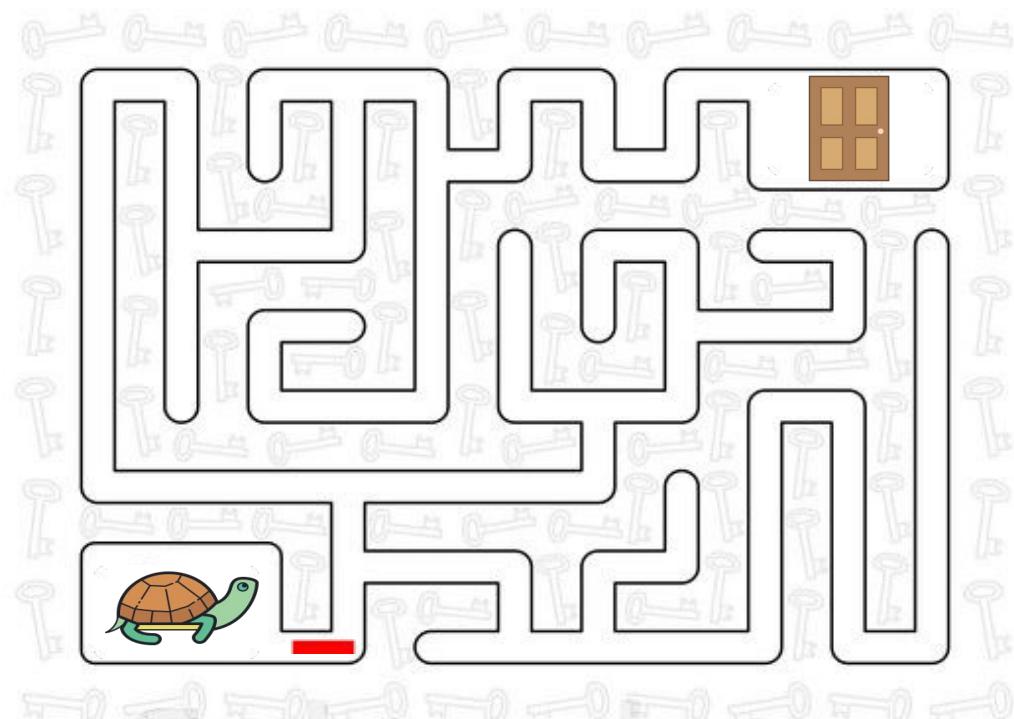
```
turtle.Screen()  
turtle.shape('turtle')  
turtle.color('darkgreen')  
turtle.speed('slowest')  
  
# ======  
# 4: Contornando o beco sem saída  
  
turtle.backward(50)  
turtle.right(90)  
turtle.forward(50)  
turtle.left(90)  
turtle.forward(200)
```



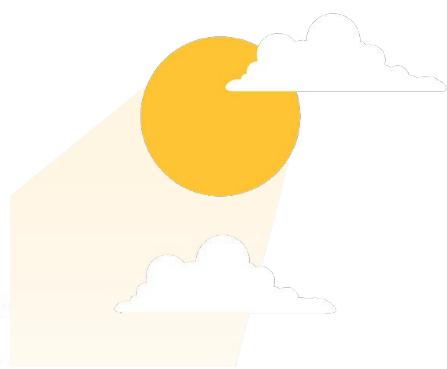
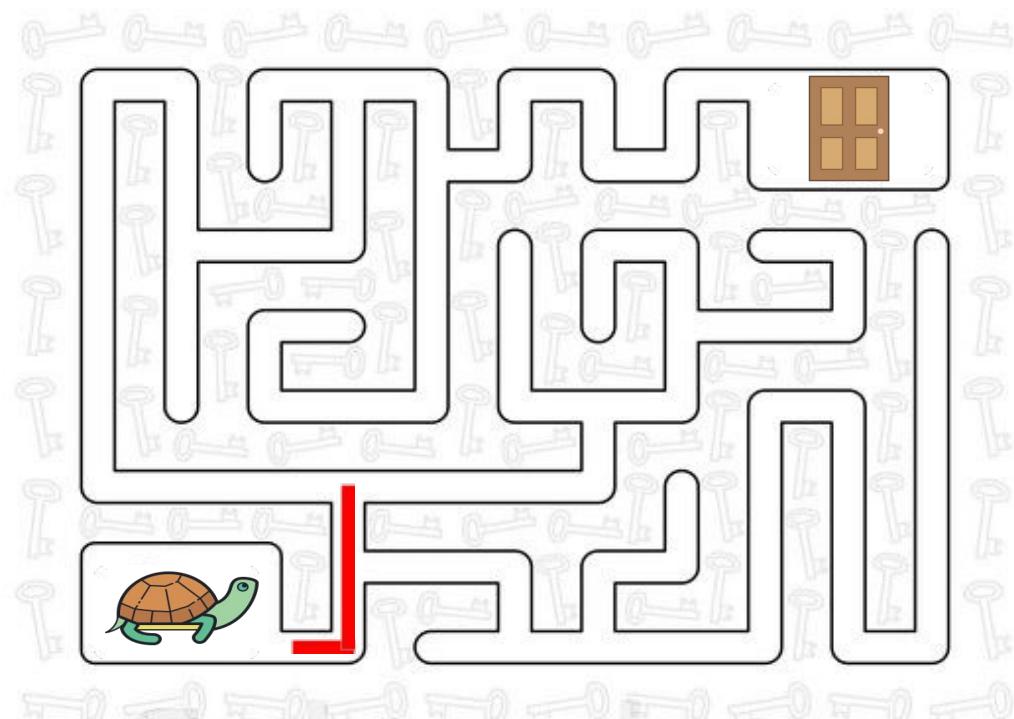
# Resolvendo o labirinto



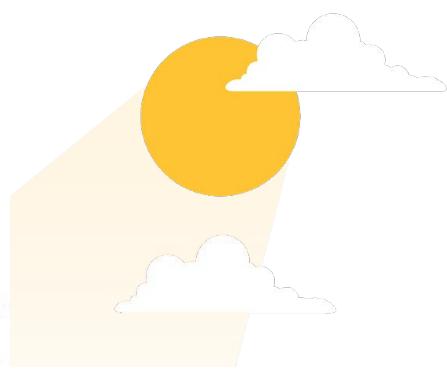
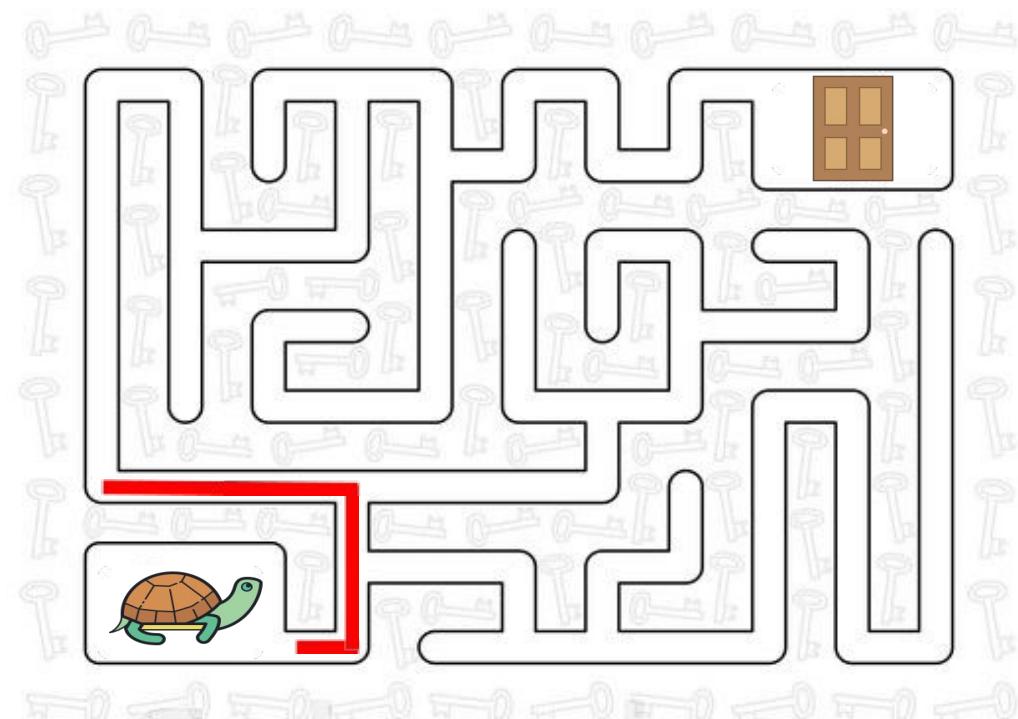
# Resolvendo o labirinto



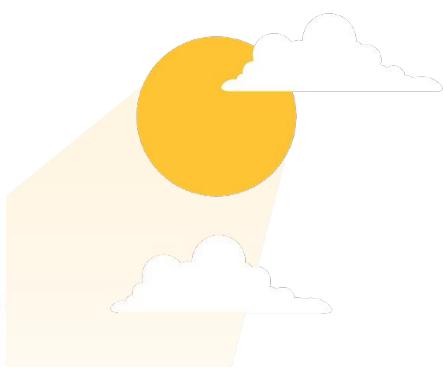
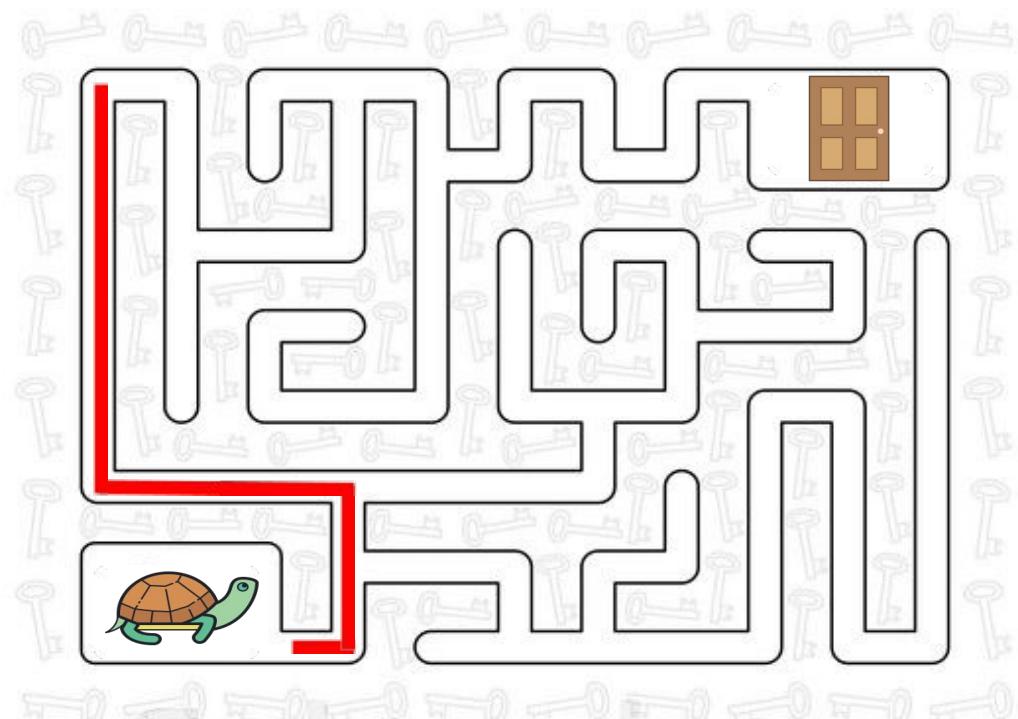
# Resolvendo o labirinto



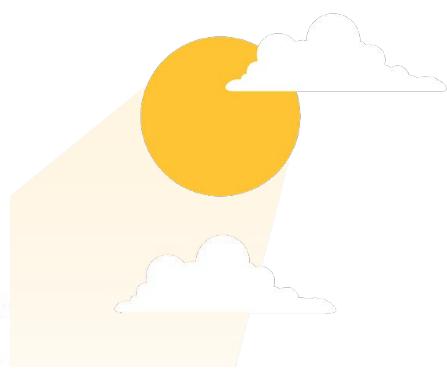
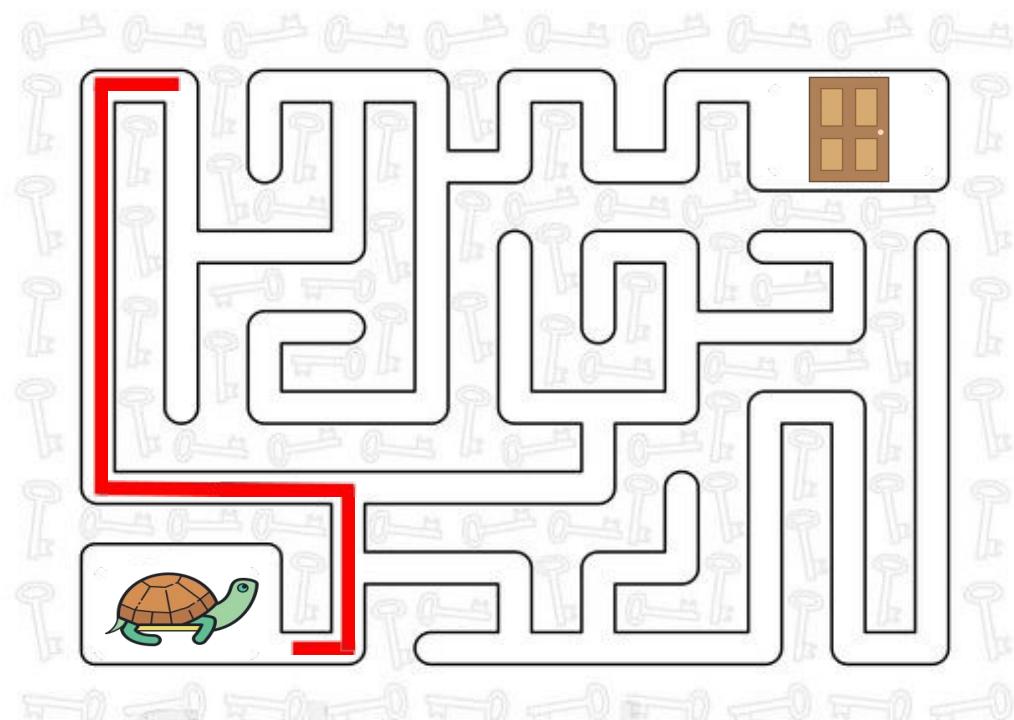
# Resolvendo o labirinto



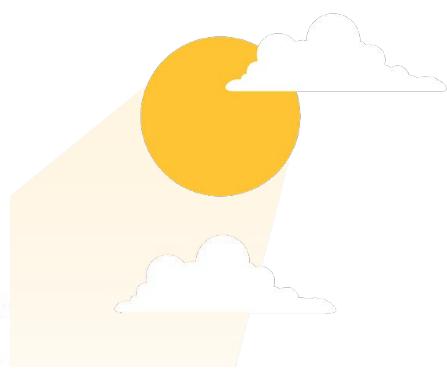
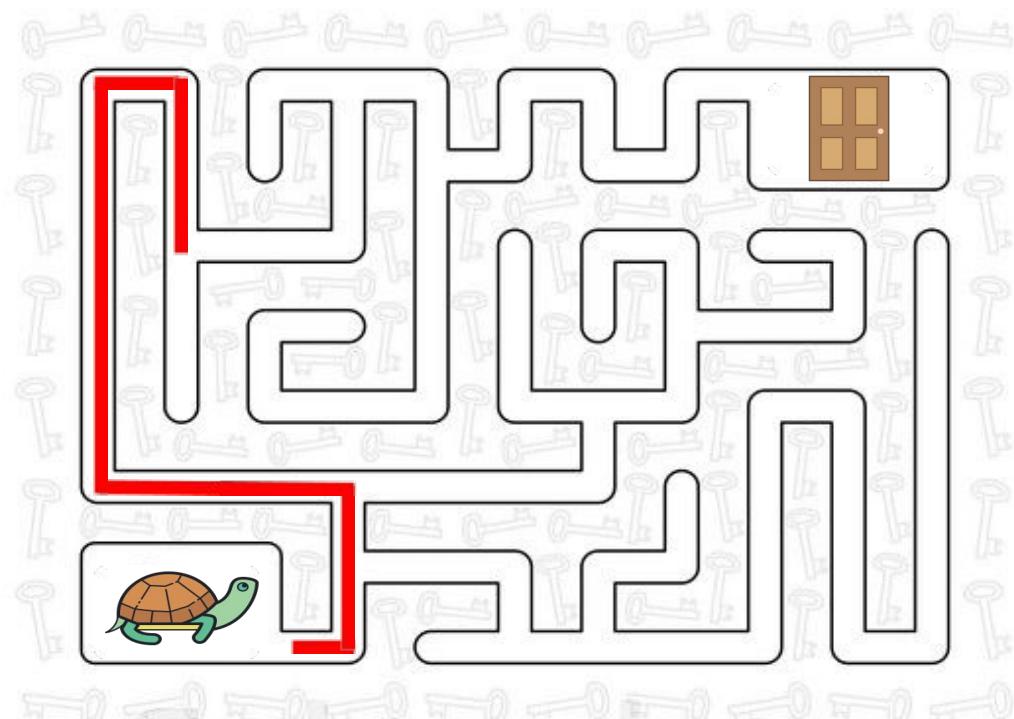
# Resolvendo o labirinto



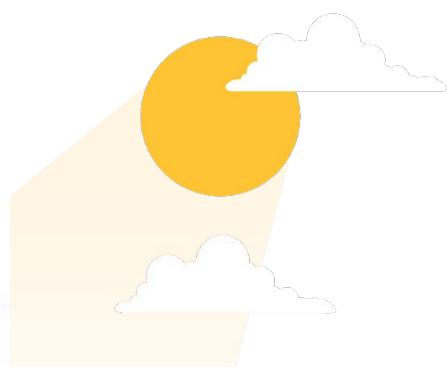
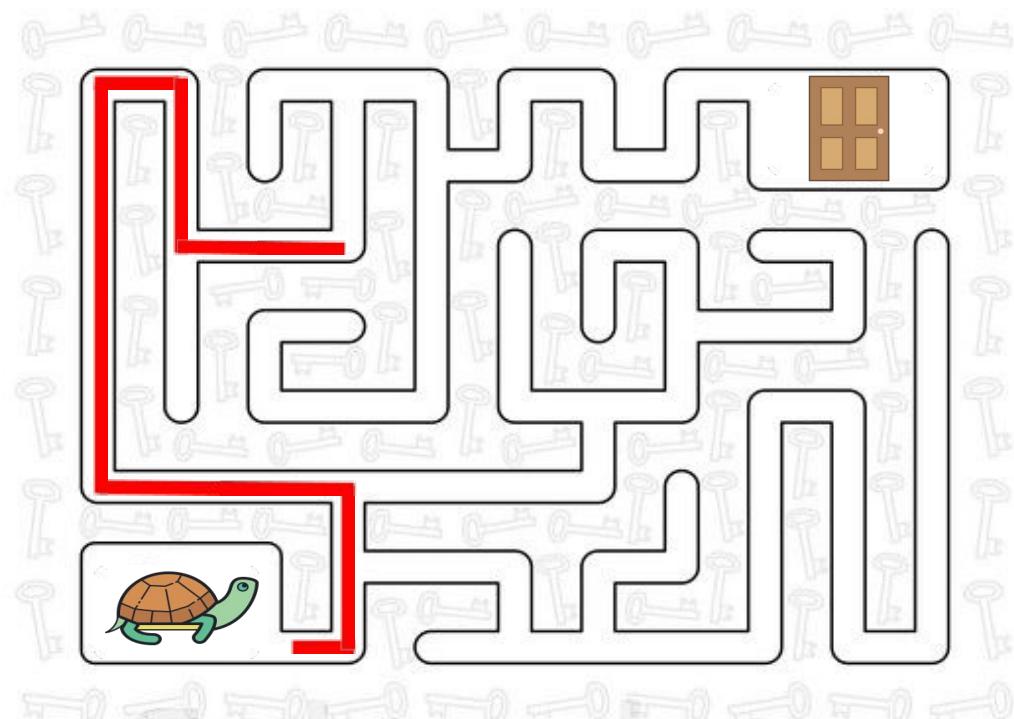
# Resolvendo o labirinto



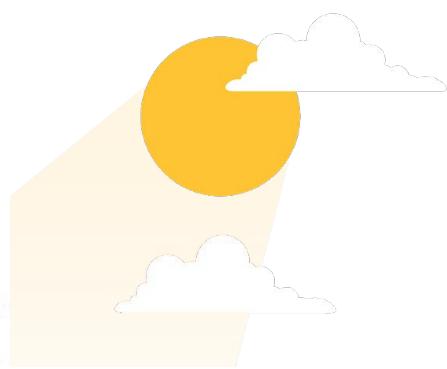
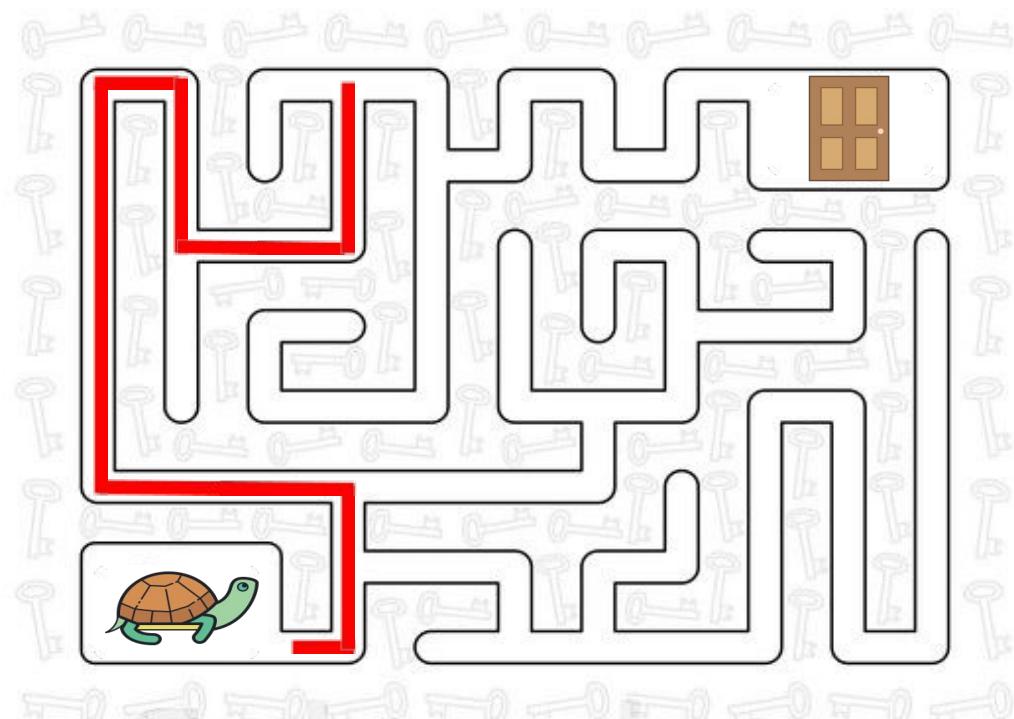
# Resolvendo o labirinto



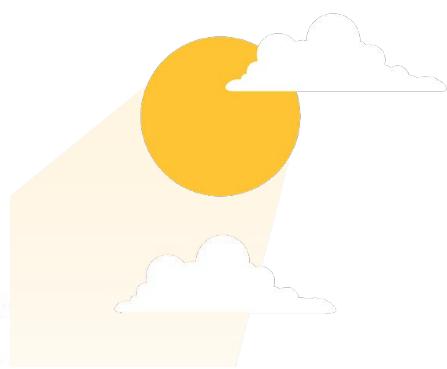
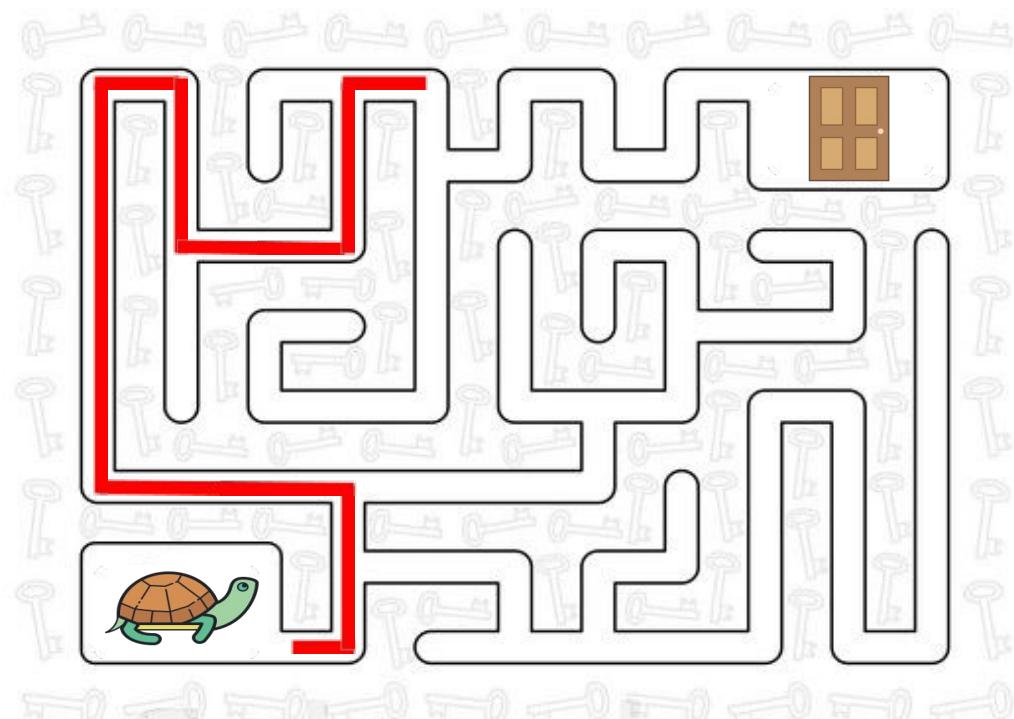
# Resolvendo o labirinto



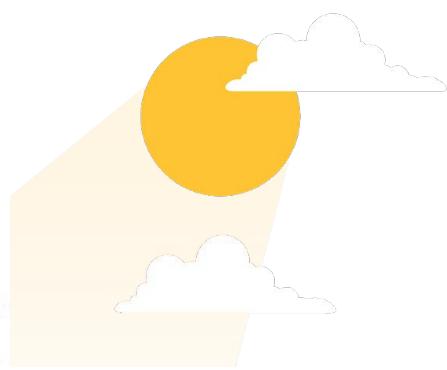
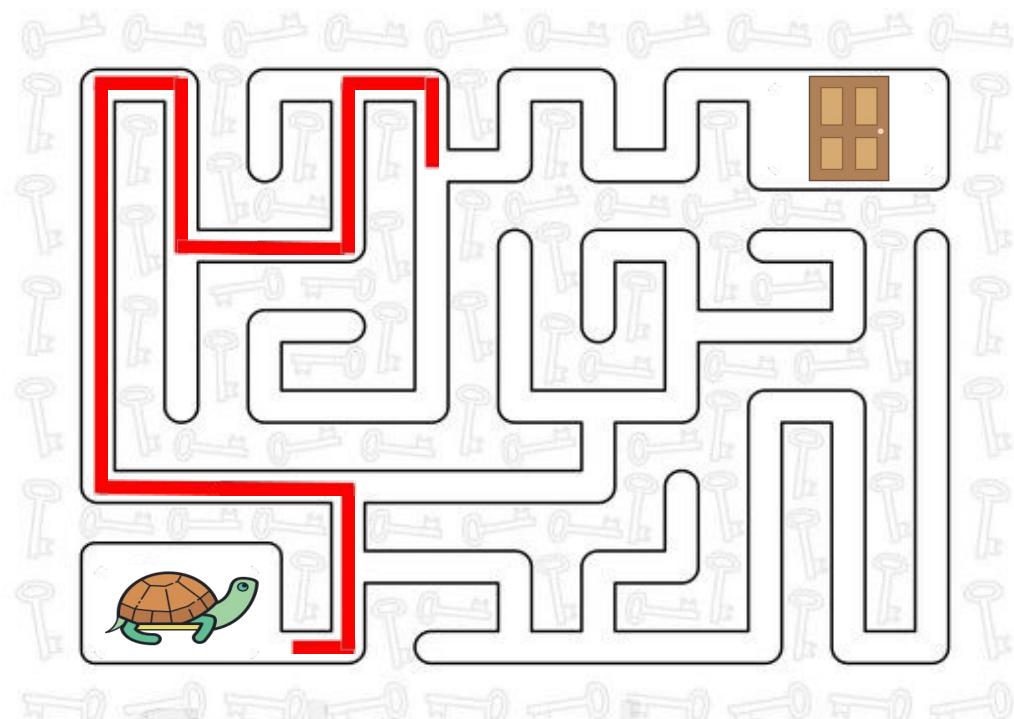
# Resolvendo o labirinto



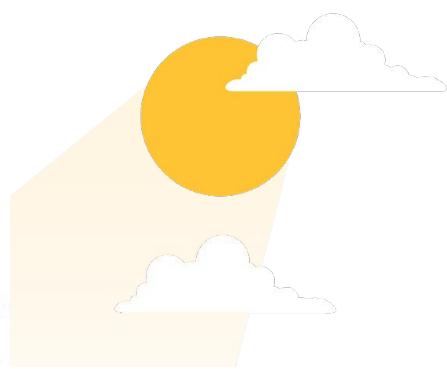
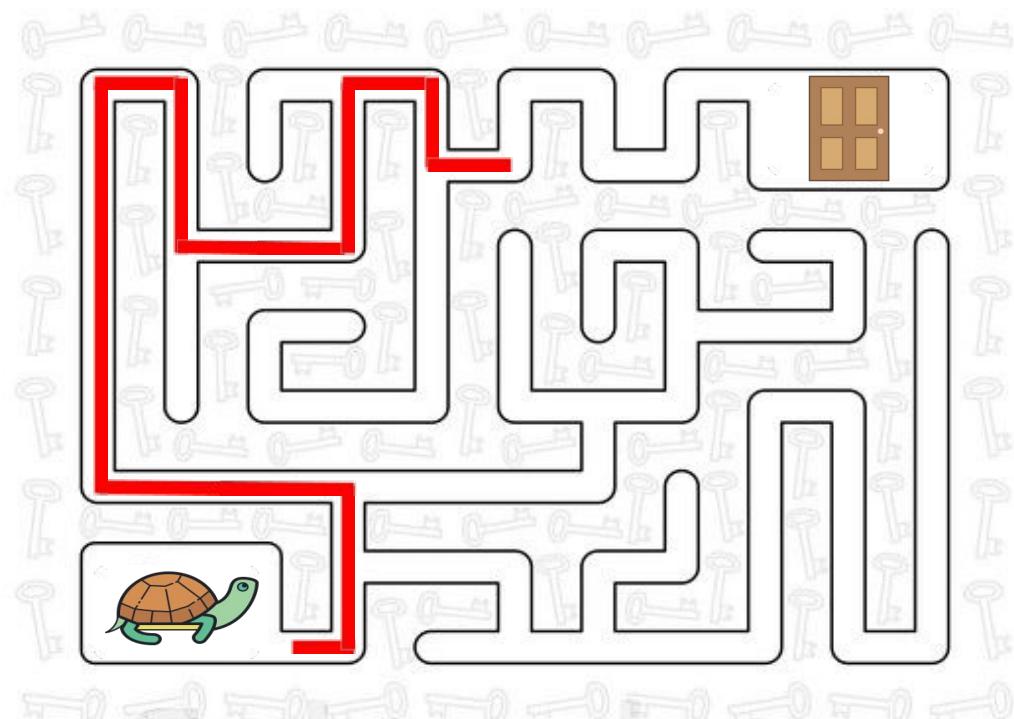
# Resolvendo o labirinto



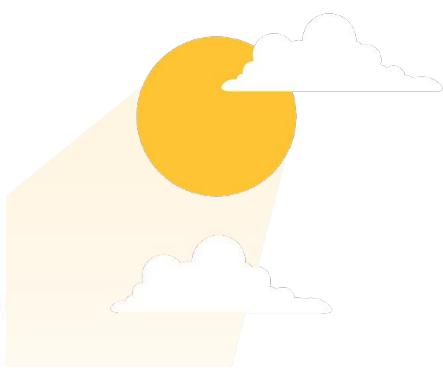
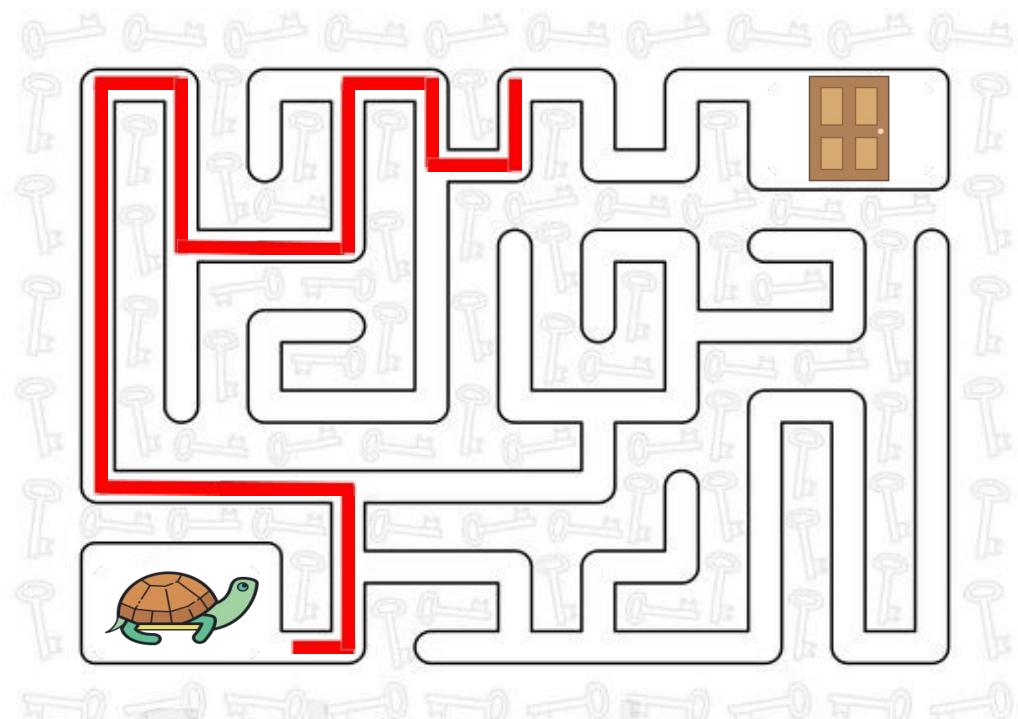
# Resolvendo o labirinto



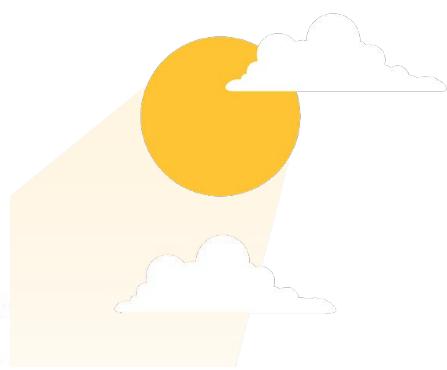
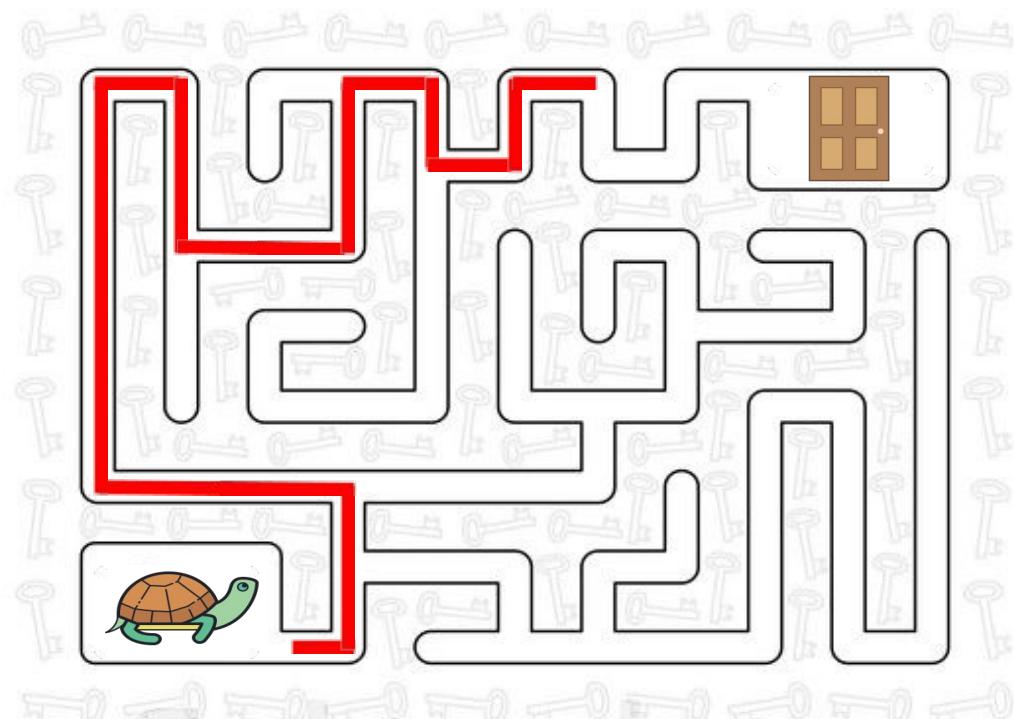
# Resolvendo o labirinto



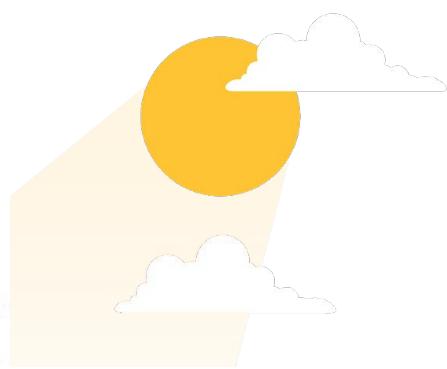
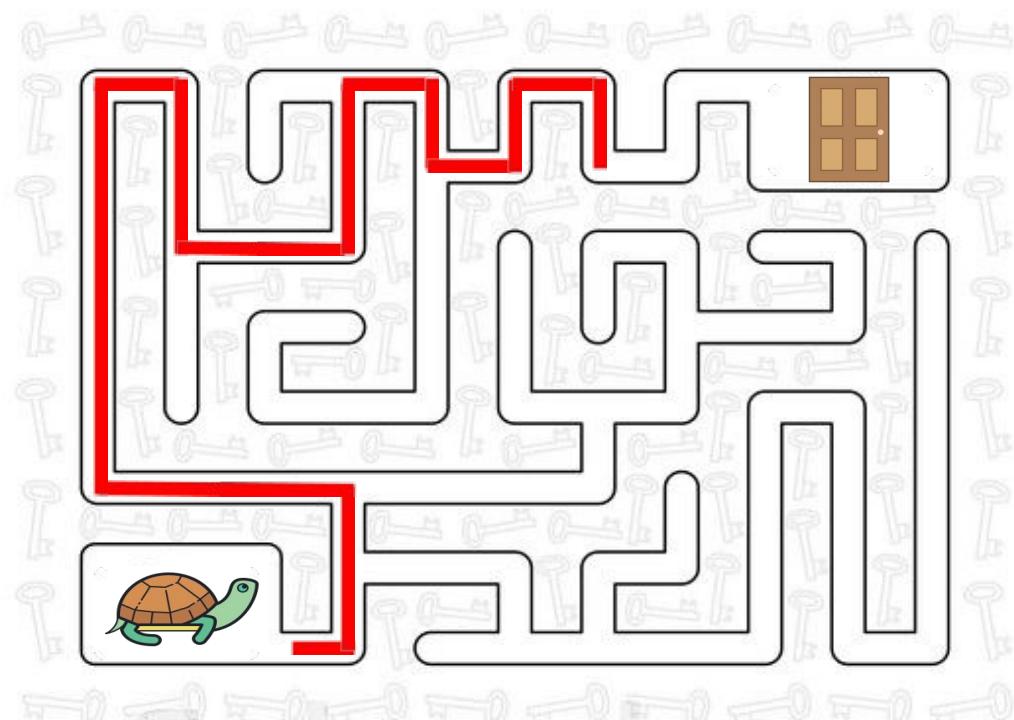
# Resolvendo o labirinto



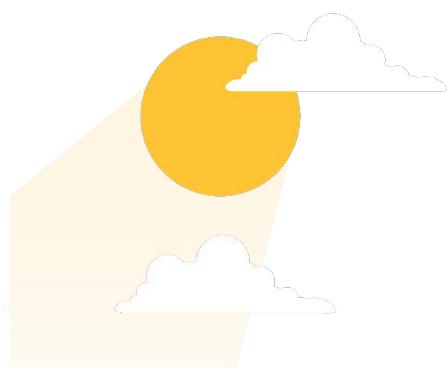
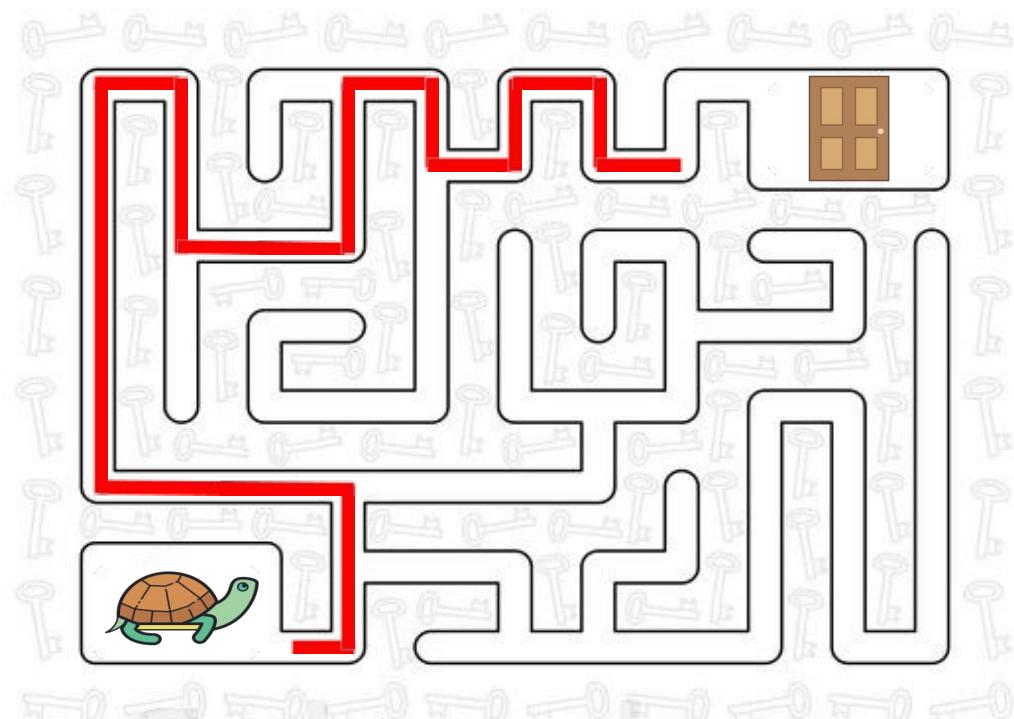
# Resolvendo o labirinto



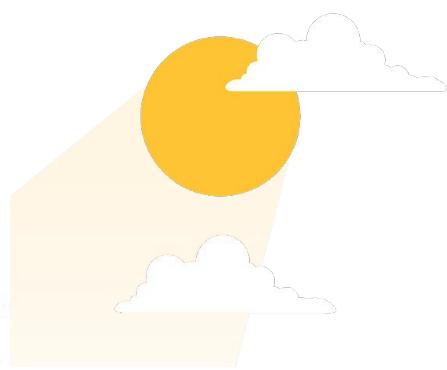
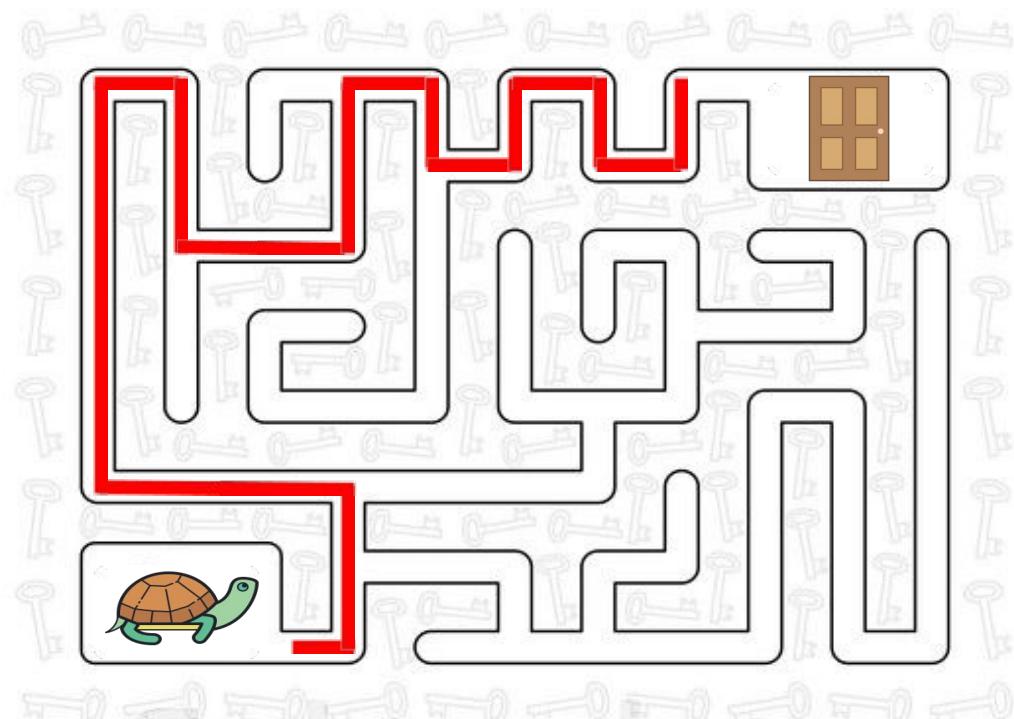
# Resolvendo o labirinto



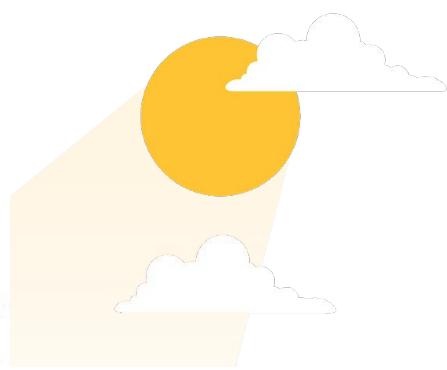
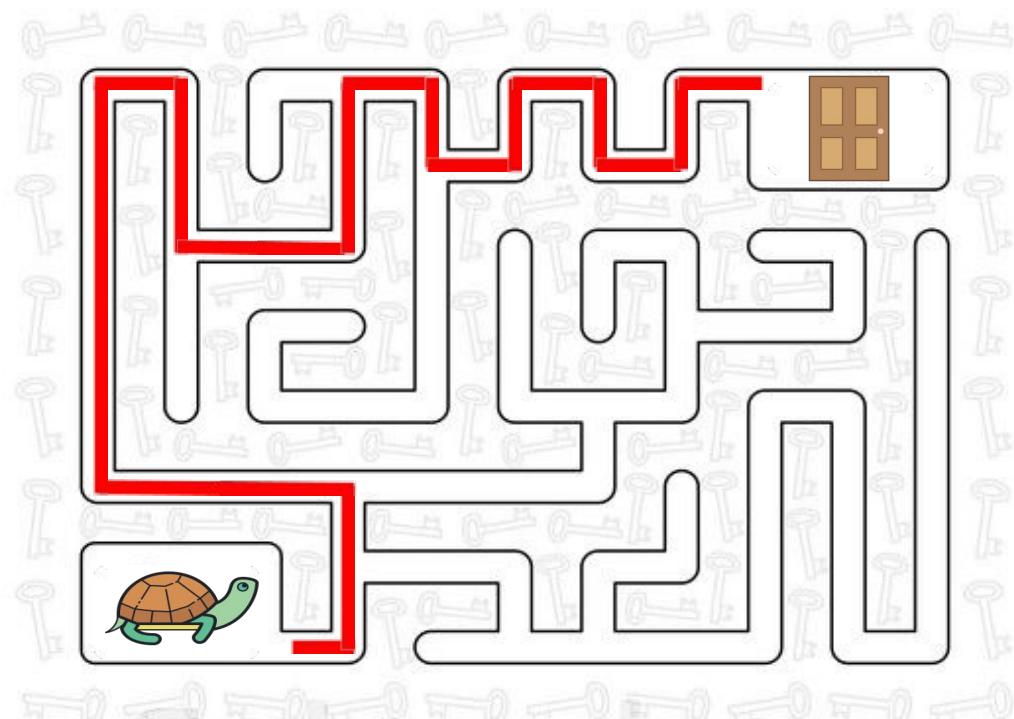
# Resolvendo o labirinto



# Resolvendo o labirinto

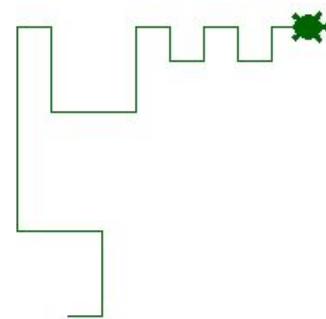


# Resolvendo o labirinto

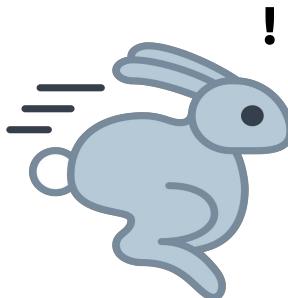


```
# =====
# 5: Resolvendo o labirinto
```

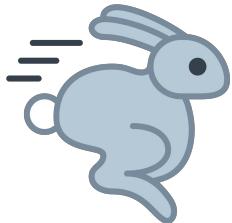
```
turtle.forward(20)
turtle.left(90)
turtle.forward(50)
turtle.left(90)
turtle.forward(50)
turtle.right(90)
turtle.forward(120)
turtle.right(90)
turtle.forward(20)
turtle.right(90)
turtle.forward(50)
turtle.left(90)
turtle.forward(50)
turtle.left(90)
turtle.forward(50)
turtle.right(90)
turtle.forward(20)
turtle.right(90)
turtle.forward(20)
turtle.left(90)
turtle.forward(20)
turtle.left(90)
turtle.forward(20)
turtle.right(90)
turtle.forward(20)
turtle.right(90)
turtle.forward(20)
turtle.left(90)
turtle.forward(20)
turtle.left(90)
turtle.forward(20)
turtle.right(90)
turtle.forward(20)
turtle.right(90)
turtle.forward(20)
turtle.left(90)
turtle.forward(20)
turtle.left(90)
turtle.forward(20)
turtle.right(90)
turtle.forward(20)
```



# A lebre acordou assustada percebendo que se atrasou



# ...Mas já era tarde demais



# Moral da história



# Moral da história



**Sempre realize o seu trabalho  
com persistência**

**Todas as pessoas grandes  
foram um dia crianças,  
mas poucas se lembram  
disso.**



**O pequeno príncipe**

# A experiência



# Envolvimento das professoras que também ajudavam os alunos durante a atividade



# As crianças eram muito curiosas e ajudavam umas as outras



**É importante criar um  
espaço onde todos  
possam se identificar na  
tecnologia**





1º encontro  
PyLadies (2017)



1º minicurso de  
Python (2018)





## 1º minicurso de Python (2018)



**Women Techmakers  
(2019)**



**Python Brasil  
(2019)**



# Próximos passos



*pyladies*  
Manaus



*cunhantã digital*



Obrigada!  
Perguntas?

-  [manaus.pyladies.com](http://manaus.pyladies.com)
-  [manaus@pyladies.com](mailto:manaus@pyladies.com)
-  [@pyladiesmanaus](https://www.facebook.com/pyladiesmanaus)
-  [@pyladiesmanaus](https://twitter.com/pyladiesmanaus)
-  [@pyladiesmanaus](https://www.instagram.com/pyladiesmanaus)

