

Student workbook

Rock, paper, scissors with EduBlocks

Code Playground



Rock, paper, scissors with EduBlocks

EduBlocks project

EduBlocks is a free tool that helps anyone learn how to code with text-based languages like Python, using familiar block coding as used in Scratch.

In this project, we are going to code the classic game of Rock, Paper, Scissors. The player will start off by typing in a choice of rock, paper or scissors, then the computer will also make a selection at random, displaying whether you have won, tied or lost that round and you will be able to see what block coding looks like in Python coding language. .

This project is designed for EduBlocks 4.0.

Hope you enjoy the project!

Powered by  **trinket**

```
Enter a choice (rock, paper, scissors): rock
You chose:
rock
Computer chose:
paper
Paper covers rock! You lose.
Enter a choice (rock, paper, scissors): paper
You chose:
paper
Computer chose:
scissors
Scissors cuts paper! You lose.
Enter a choice (rock, paper, scissors): scissors
You chose:
scissors
Computer chose:
scissors
It's a draw!
Enter a choice (rock, paper, scissors): rock
You chose:
rock
Computer chose:
scissors
Rock smashes scissors! You win!
Enter a choice (rock, paper, scissors): █
```

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Step 1

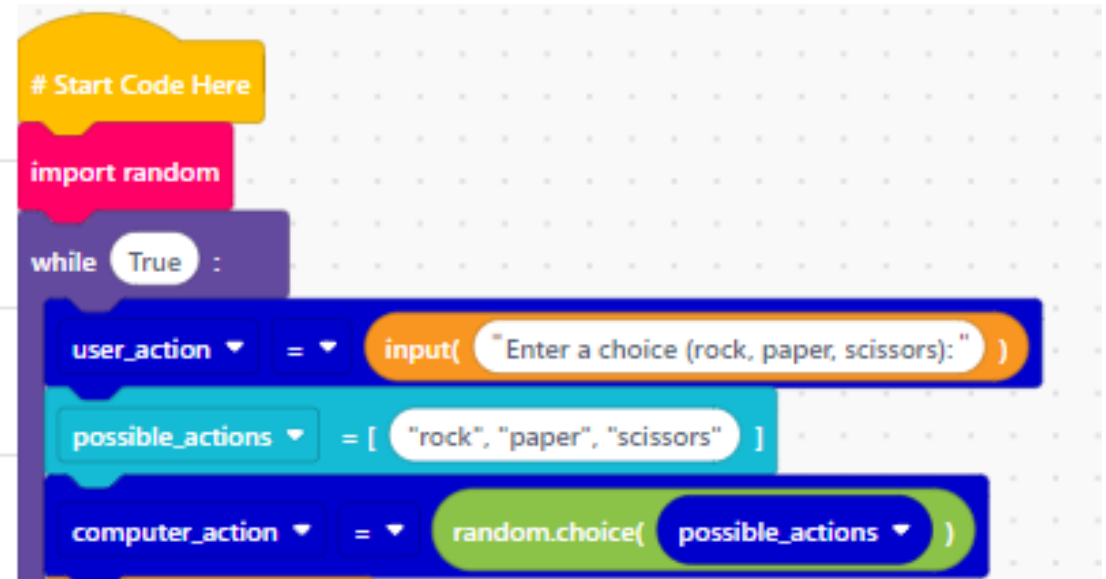
For this game, we need to code together a number of different factors, using loops, variables, lists and statements.

The first step is to use `import random`, which will allow the computer to make a selection at random throughout the game.

All the code from here, will be within the `while true` loop, so a new game will continue after each players choice has been revealed and continue indefinitely.

The next pieces of code use variables to allow the player to enter their choice of rock, paper or scissors and the computer player to make a random selection.

Block code



Python code

```
1 # Start Code Here
2 import random
3 while True:
4     user_action = input("Enter a choice (rock, paper, scissors):")
5     possible_actions = ["rock", "paper", "scissors"]
6     computer_action = random.choice(possible_actions)
```

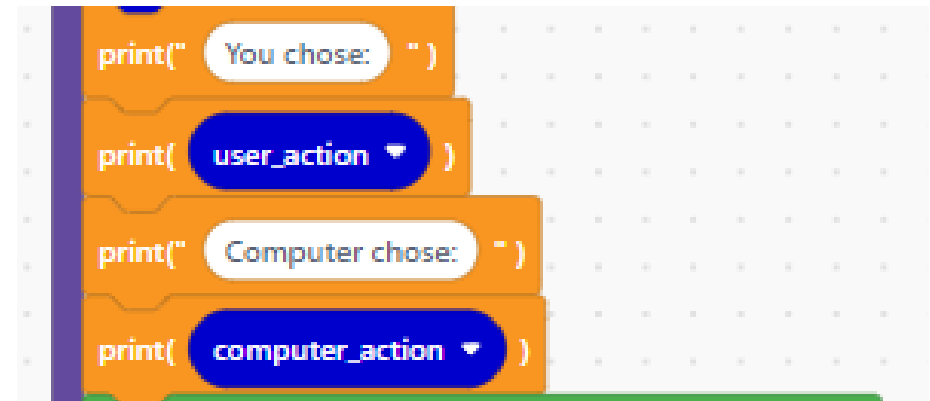
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Step 2

For the next part, we use statements and variables to show what the outcome will print during the game. Remember, all of the code we are adding is still contained inside the while true: loop.

Block code



Python code

```
7 print("You chose:")
8 print(user_action)
9 print("Computer chose:")
10 print(computer_action)
```

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Step 3

As both the player and computer have now made their choices, we need to code the different possible outcomes of the game to decide who the winner is using the if, elif and else blocks.

The first if block covers the outcome for a draw, if both the player and computer chose the same object then we can declare a draw.

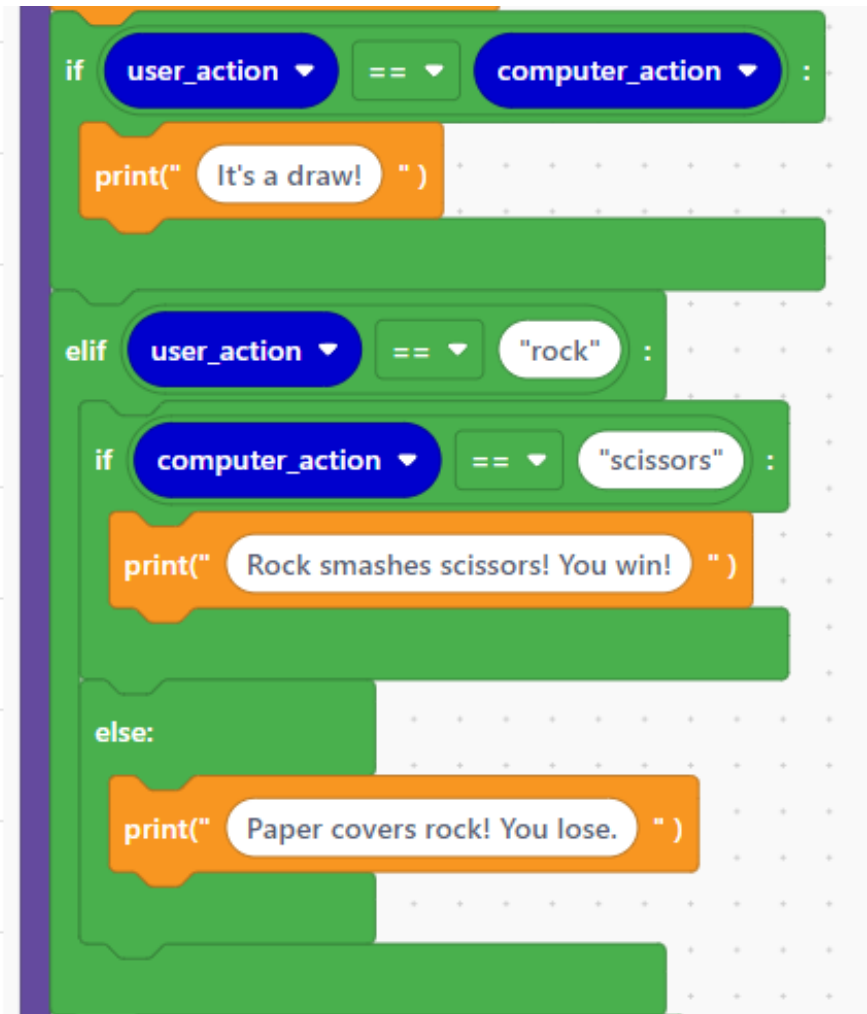
The next elif and else blocks show the possible outcomes if the player chooses rock and we can compare against the different variations of the computers choice.

Remember, all of the code we are adding is still contained inside the loop.

Python code

```
11 if user_action == computer_action:
12     print("It's a draw!")
13 elif user_action == "rock":
14     if computer_action == "scissors":
15         print("Rock smashes scissors! You win!")
16     else:
17         print("Paper covers rock! You lose.")
```

Block code



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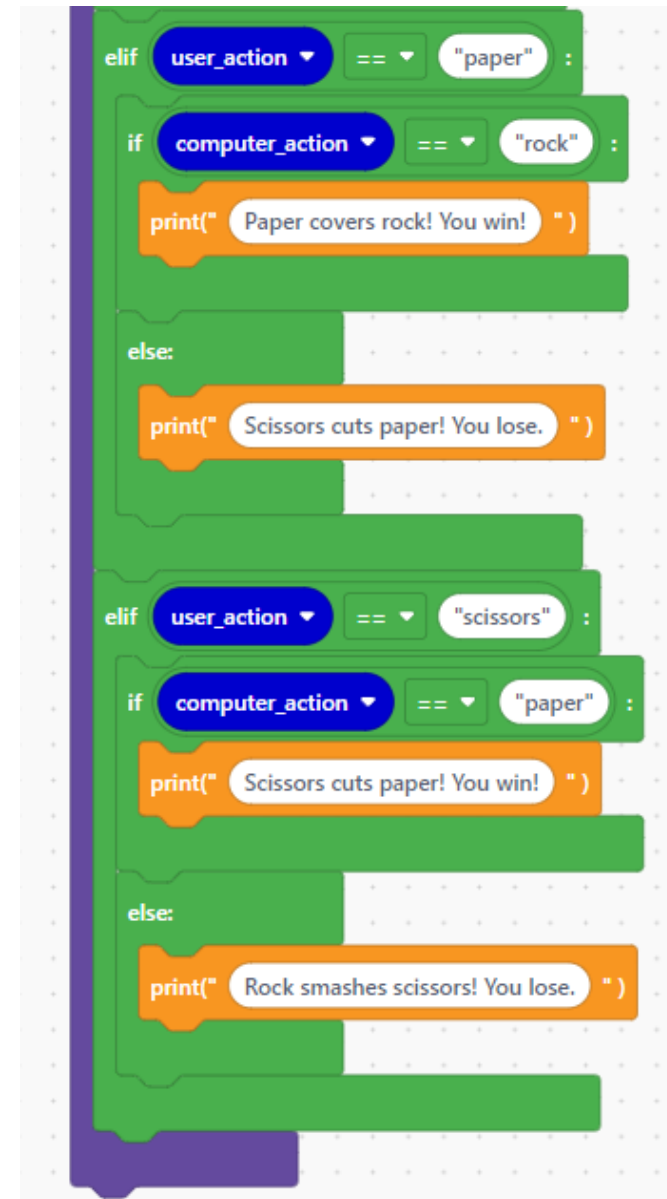
Step 4

So far we have covered the outcomes for a draw and if the player selects rock. To complete the code, we now need to replicate the code to show the different outcomes if the player chooses paper or scissors.

Python code

```
18 elif user_action == "paper":
19     if computer_action == "rock":
20         print("Paper covers rock! You win!")
21     else:
22         print("Scissors cuts paper! You lose.")
23 elif user_action == "scissors":
24     if computer_action == "paper":
25         print("Scissors cuts paper! You win!")
26     else:
27         print("Rock smashes scissors! You lose.")
```

Block code




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Step 5

This is then the end of your code and you are then ready to play your Rock, Paper, Scissors game!

```
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Enter a choice (rock, paper, scissors): rock
You chose:
rock
Computer chose:
paper
Paper covers rock! You lose.
Enter a choice (rock, paper, scissors): paper
You chose:
paper
Computer chose:
scissors
Scissors cuts paper! You lose.
Enter a choice (rock, paper, scissors): scissors
You chose:
scissors
Computer chose:
scissors
It's a draw!
Enter a choice (rock, paper, scissors): rock
You chose:
rock
Computer chose:
scissors
Rock smashes scissors! You win!
Enter a choice (rock, paper, scissors): █
```

Notes

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