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# This script lets the player play Rock, Paper, Scissors against the
computer.
# The user is asked to input one of the options: "Rock", "Paper", or
"Scissors".
# We use a Python list (an array) to store the valid choices and simplify
the game logic.
# Extensive comments are provided so that total beginners can follow along.

import random # Import the random module for generating random computer
choices

# Create a list (array) containing the valid options.
# The order is important as we will use the index values to determine the
winner.
choices = ["Rock", "Paper", "Scissors"]

# Ask the player for their choice.
# The input() function displays a prompt and waits for the user to type a
response.
player = input("What is your choice? (Rock, Paper, Scissors): ")

# Convert the player's choice to have the first letter capitalized.
# This ensures that the player's input matches the exact string format in
our list.
player = player.capitalize()

# Check if the player's input is valid.
if player not in choices:
    # If the input is not valid, print an error message and end the
    program.
    print("Invalid choice! Please choose Rock, Paper, or Scissors.")
    exit()

# Get the computer's choice by randomly selecting an element from the list.
# This replaces your if/elif block by a simple list selection.
computer = random.choice(choices)

# Convert the player's and computer's choices into indices of the 'choices'
list.
# For example, if player is "Rock", then player_index will be 0.
player_index = choices.index(player)
computer_index = choices.index(computer)
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# Now we determine the winner using modulo arithmetic.
#
# The key idea is to calculate:
#     result = (player_index - computer_index) % 3
#
# The logic behind this:
#   - If the result is 0, both the player and the computer chose the same
#     option → it's a tie.
#   - If the result is 1, then the player's choice beats the computer's
#     choice.
#   - If the result is 2, then the computer's choice beats the player's
#     choice.
#
# For example:
#   If player chooses Rock (index 0) and computer chooses Scissors (index
#   2):
#       (0 - 2) % 3 equals 1 → the player wins, because Rock beats
#       Scissors.
result = (player_index - computer_index) % 3

# Based on the result, set the 'winner' string to explain who wins.
if result == 0:
    winner = "tie"
elif result == 1:
    winner = "user wins"
else:
    winner = "computer wins"

# Display the results.
print("Player chose: " + player)
print("Computer chose: " + computer)
print("Result: " + winner)

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