C# Programming:

Logic for rock, paper, scissors

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Task:

- Create a game based on rock, paper, scissors where the user plays against a computer opponent

Needed elements

- Image(s) representing the 3 possible choices
- Buttons for each of the choices
- A randomization method generating a choice from 1-3
- Possible scoring routine
- Game logic

Random Method

- Private int RandomNumber(int min, int max)
  {
      Random random = new Random(); //Constructor
      Return random.Next(min, max);
  }

- Notice that this method takes 2 arguments

  - First argument is inclusive

  - Second argument is exclusive

- =<lower value, <upper value

How to employ Random Method

- Random method must be called by each of the buttons representing the 3 possible user choices. (Why?)

- When method is called, must pass values to random method

- int returnValue = RandomNumber(1,4);

Game Logic

- There are 3 buttons one each representing either rock, paper or scissors.

- When one is chosen by user, the computer randomly generates its choice, examines the outcome (return value), and prints out the results of that round.

If and else if for a choice of Rock

- If the returnValue ==1
    - I chose Rock, we tied
- Else If the returnValue ==2
    - I chose paper, paper wraps rock, you lose
- Else If the returnValue ==3
    - I chose scissors, rock breaks scissor, you win.

How to add scoring

- Create 2 global variables (public), one representing the user's score and the other representing the computer's score.

- With a tie, no one wins, no score information required

- With a user loss, one point gets added to the computer's score.

  - Cscore=Cscore +1;

- With a user win, one point gets added to the user's score

  - Uscore=Uscore +1;

More Scores

- After each round of the game, update the score and print to screen

Finalizing Game

- Game ends when first player scores 10
- Test each value after each round to see if either score equals 10
  - If (Cscore == 10)
    - Print ("I win, you lose")
  - If (Uscore == 10)
    - Print ("Congratulations, you have won the game")