The following listed items are “functions” that you must use in order to make your code work.

self.PlayerTurn()

This function tells you if it is currently the player’s turn
You can combine it with an “if statement” like seen below:

```
if self.PlayerTurn():
        *do something*
```

If it is the player’s turn the code will *do something*, otherwise it will skip over everything explained in *do something*

self.CpuTurn()

This function works exactly the same as self.PlayerTurn() except it tells you whether or not it is the cpu’s turn.

self.MakePlayerMove()

This function asks the player what move they want to make and moves the pieces accordingly. If the player inputs an invalid move, the method just asks them for a move until they give a valid move. It ends the player’s turn and gives control over to the cpu.

self.MakeCpuMove()

This function makes the cpu, your opponent, move by having it choose a random, valid move. It ends the cpu’s turn and gives control over to the player.

self.Exit()

This function checks whether or not the player wants to exit. This can be combined with a “while loop” which works similarly to an “if statement”.

```
while not self.Exit():
        *do something*
```

The code above will run *do something* if and only if the user does not want to exit. If the user inputs ‘q’ the program should end.

self.RemoveLosingMove()

This function removes the losing move that the cpu just made, this is how the cpu “learns”. Since the move is “removed” the cpu will never make the same mistake twice.

self.PlayerWon()

This function determines whether or not the player has won the game or not. Similar to the “self.PlayerTurn()” function, it can also be combined with an “if statement” self.CpuWon()

This function works exactly like “self.PlayerWon()” except it determines whether or not the cpu has won.

self.PlayerCelebrate()

This function should be “activated” or “called” when the player has won the game. It prints out a congratulatory statement, and the current score to the player and asks them to play again.

self.CpuCelebrate()

This function works like “self.PlayerCelebrate()” except it should be activated when the cpu has won the game. It prints out a “try again” statement and the current score of the match, then asks the player to play again.

self.Clear()

This function clears the screen to prevent clutter, it is not necessary to make the program run, but it helps make things look nice.

self.Reset()

After the game is over, what do you do? Reset the board to play again! This function does just that, it resets the board so the games can continue.

self.PrintBoard()

This function displays the board to the player so that they can see what is happening. It is not necessary to make the program work, but without it the player would be lost. You should call “self.PrintBoard()” at the beginning of each turn.

The following are “Variables” that you can change when you see fit:

self.PlayerScore

This variable holds the current score of the player. When should it be increased?

self.CpuScore

This variable holds the current score of the cpu. When should it be increased?

Note that none of the variables have a ‘()’ at the end of them.

Steps to success:

```
Do the following until the player wants to exit:

    Clear the screen then print the board

    If it’s the player’s turn do the following:

        Make the player move
        Clear the screen and print the new board

        If the player won do the following:

            Celebrate, increase the player’s score, reset the board, and
            remove the losing move.

        If the player has not won you can copy/paste the following as a bonus:

            print(“The cpu is calculating its move…”)
            sleep(4)

    Otherwise, if it’s the cpu’s turn do the following:

        Make the cpu move

        If the cpu won do the following:

            Let the Cpu celebrate, increase its score, and reset.
```

Hint, follow the following structure:

```
While___:

    If___:

        If___:

        Else___:

    Elif___:
```

(Elif = else if)