

Coding in Fortran

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Algorithm:

- Main
 - The function prints out a board at the start of the program with number corresponding to each square for the user.
 - Sets the board to be clear at the start of the program
 - Prints the ending function
- Chkovr
 - Refactored code
 - Runs to do loops to check if either the AI or the player have won the game
 - The do loops return who won the game
 - If the do loops end without returning anything the match is a draw
 - I didn't understand why the loop were being run 10, 20, 40, 45 time respectively in the chkover subroutine provided
- Chkplay
 - Refactored code
 - Checks to see if the location of the move is already occupied.
 - Returns true if the space is empty
 - Returns false if the space is occupied
 - Didn't use go to command and subroutine as implied in the code provided as I didn't understand the 401, 402 calls
 - Default case is false as it means the player or pc has entered a number not between 0-9
 - This case should never be triggered
- Showboard
 - Displays the board after every move
- Getmove
 - Gets user input
 - Converts it into a char
 - Make x = the integer value of the user input
 - Calls chkplay
- Same
 - Receives 3 data parameters
 - Returns true if all are same
 - Else false
- Playtictactoe
 - Calls getMove
 - Sets the square user selected to X
 - Shows board after every move
 - Tells who won the game

Limitations

- I couldn't finish the AI in time for the submission.
- It was removed from code as the unfinished code caused warnings and errors

Experience with Fortran

- Problems
 - The biggest problem I had with Fortran was getting used to new syntax
 - Fortran also lacks many libraries that in C and Java we take for granted
- Enjoyed
 - After a couple of reading and sample programs I was feeling quite comfortable with the language
 - Also, being able to specify what type of function you are creating, and it's expected return was something I really enjoyed
- Easier or harder
 - This program would have been much easier to creating in a language like Java or Python due to the extensive libraries available
 - In C, it coding would have been easier as I am more used to the syntax. The algorithm however, would have been similar
- Learning
 - Fortran has elements of C, Python, and Visual Basic, all of which I have previously used.
 - Along with sample programs, I found the language to be relatively easy to understand and code in

How to run

- Compile
 - gfortran TicTacToe.f95
- Run
 - ./a.out