Assignment 2

Create Fully functioning "Robot Simulator" with MENU of choice Complete with search functions,

Files Read and write capabilities as well as creation of custom Robots to compete.

Create 2 structs (Robot and Test Results) with appropriate variables

Create 10 Functions:

-Menu-

Create Arrays for structs and state Variables

Welcome User into Menu (SWITCH and CASE(1-8) statements)

1. Search

2. Create Robot

3. Combat

4. Display Combat Results

5. Display Winners

6. Save Robot Information

7. Save All Results

8. Display All Current Robots

9. Exit

-Search

INPUT INTEGER and compare with TOTALROBOT variable COUNT. IF TRUE then OUTPUT ARRAY ELEMENT.

-Combat

Robot Competition

Write Program which determines combat effectiveness of a robot using 3 parameters

and simulate 100 fights against a "Human" opponent

DEFINE 3 FUNCTIONS (NOW INTEGRATED) to determine SPEED - STRENGTH - COMBATSCORE

INPUT 2 Variables (FinishTime (in seconds) & Distance (in Meters))

(If Variables not within acceptable parameters LOOP INPUT until parameters correct)

INPUT 1 Variable (INT) of STRENGTH (between 0-100)

(If Variables not within acceptable parameters LOOP INPUT until parameters correct)

Do Math Equation

SET hard limits to remove false answers

OUTPUT “Percentage of chance of ROBOT winning”

Run RANDOM NUMBER to simulate fights

COUNT amount of wins the Robot and the Human have.

OUTPUT number of victories

Print Results of Simulation to OUTPUT FILE (FightResults.txt) and on-screen.

SET QUIT and RESET parameters using INT and LOOP Functions

TERMINATE FUNCTION

-Display Simulation Results

Load and open FILE (FightResults.txt) and PRINT On-Screen

-Create Robot

Write Program Which uses STRUCTS POINTERS and ARRAYS to "search" and add to a DATABASE of ROBOTS to choose for the race

determined by the relative SPEED score.

Typedef Struct and variables to be used in struct for ROBOT

Welcome User and print available robots

Allow User to choose if they would like to add a custom robot (Object to struct array) to the Table

If statement which chooses to build robot or not.

IF Build is true Run "Create Robot" Function and point result to array.

-Print Robot

Print Result of Robot Array

-Save Robot Information

OUTPUT ROBOT ARRAY to external FILE Named ROBOT.txt

-Display Winners

(INJECT TestResults Array into function

and run an element search outputting highest variable for

Elements (Speed, Combat Score and Strength) then print Robot name and highest score with option of printing to FILE (Winners.txt).

-Save All Information

OUTPUT TestResults ARRAY to external FILE Named Results.txt

Main Program Loads Menu Functions

Comment out Unusable Code and Functions which are not complete.