Project 2

<Battleship Game>

CIS-5

Seth Cross

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Introduction

Title: Battleship Game

Battleship is a game that is played on a 10x10 grid between 2 players.

Each player will have 10 battleships of varying lengths, but only have a width of 1.

Each player will hide their board and place battleships in random positions.

Each player will take turns guessing positions where they think a battleship will be

and the other player will tell them if they hit a battleship or not.

If a battleship is hit, both players will put a red marker on the spot the battleship

was hit.

If a battleship is hit in every spot that it takes up, it will be considered "sunk".

The player who sinks all enemy battleships first, wins.

Summary

Project Size: 279+ lines

Number of Variables: 7 (including arrays)

This project includes some of the concepts we learned from the chapters in the book. Originally we were limited to a 1 dimension since we didn't have arrays. But since learning arrays and functions. I was able to make the game properly with a 10x10 grid.

It took me about 3 days to complete.

A problem I had while working on this project was using variables across multiple functions. I tried to keep main to as little code as possible and leave all the code in functions that would be called to play the game. Having many different functions that use the same variables with the same values was a bit of a challenge until I finally got 1 to work, then the rest made sense.

Pseudo Code

Initialize

Display "Would you like to play?"

Input y to play, anything else to not play

If y,

BattleShip Positions are randomized

>*do*
>>*Input a character between a - j*
>>
>>*Input a number between 1-15*
>>
>>*If input < 1 or > 15*
>>>*Display "Invalid Coordinates."*
>>>*Display "Input Coordinates between 0 and 20 for Missile Strike."*
>>>*Input a number between 1-15*
>>
>>
>>*If input value == battleship 1 position*
>>>*Display "HIT" message*
>>>*Hit counter + 1*
>>>*Display "Input Coordinates between 1 and 15 for Missile Strike."*
>>>*Input a number between 1-15*
>>
>>*Else If input value == battleship 2 position*
>>>*Display "HIT" message*
>>>*Hit counter + 1*
>>>*Display "Input Coordinates between 1 and 15 for Missile Strike."*
>>>*Input a number between 0-20*
>>
>>*Else If input value == battleship 3 position*
>>>*Display "HIT" message*

Hit counter + 1
Display "Input Coordinates between 1 and 15 for Missile Strike."
Input a number between 0-20

Else If input value == battleship 4 position
Display "HIT" message
Hit counter + 1
Display "Input Coordinates between 1 and 15 for Missile Strike."
Input a number between 0-20

Else If input value == battleship 5 position
Display "HIT" message
Hit counter + 1
Display "Input Coordinates between 1 and 15 for Missile Strike."
Input a number between 1-15

Else If input value == battleship 6 position
Display "HIT" message
Hit counter + 1
Display "Input Coordinates between 1 and 15 for Missile Strike."
Input a number between 1-15

Else If input value == battleship 7 position
Display "HIT" message
Hit counter + 1
Display "Input Coordinates between 1 and 15 for Missile Strike."
Input a number between 1-15

Else If input value == battleship 8 position
Display "HIT" message
Hit counter + 1
Display "Input Coordinates between 1 and 15 for Missile Strike."
Input a number between 1-15

Else If input value == battleship 9 position
    Display "HIT" message
    Hit counter + 1
    Display "Input Coordinates between 1 and 15 for Missile Strike."
    Input a number between 1-15

Else If input value == battleship 10 position
    Display "HIT" message
    Hit counter + 1
    Display "Input Coordinates between 1 and 15 for Missile Strike."
    Input a number between 1-15

Else
    Display "Miss" message

While (Hit Counter < 20)
Display 'Win' message.

Major Variables

Type	Variable Name	Description	Location
Integer	bShip[SIZE]	Array of Battleships	BShipGame()
Const int	SIZE	Array length	BShipGame()
Integer	hitCnt	Hit Counter	BShipGame()
	choice2	1-15	BShipGame()
char	choice1	a-j	BShipGa

Type	Variable Name	Description	Location
			me()
	chkBhp	Y to check BShip Positions	
	choice	Players choice to play the game or not	Int main()
Integer	i	For loop counter	BShipPos ()