Q6

This question refers to the subroutine *SetUpShips* which is used to set-up each of the ships. Currently there are five different classes of ships:

Aircraft Carrier

Battleship

Submarine

Destroyer

Patrol Boat

A new category of ship is to be added:

Cruiser of length 4

You will also need to edit the size of the array **TShip** in the subroutine *Main().*

1. Include your amended PROGRAM SOURCE CODE for the subroutine SetUpShips
2. Include your amended PROGRAM SOURCE CODE for the declaration of Ships in subroutine Main
3. SCREEN CAPTURE(S) for a test being made:

Test – by starting a new game and the Cruiser should display on the screen (not hidden)

In order to include the Cruiser in the game you will need to amend the code in the following routines:

Subroutine CheckWin and Subroutine PrintBoard

1. Include your amended PROGRAM SOURCE CODE for the subroutine CheckWin
2. Include your amended PROGRAM SOURCE CODE for the subroutine PrintBoard

Q7

This question refers to the subroutine *MakePlayerMove* which is used to work out if a move has been a miss or a hit. The player it currently told “Hit at (Column,Row)” but it would be better if it said which enemy ship they had hit.

Modify the code so that it also outputs the name of the ship if there has been a hit.

HINT:

The Board will hold the first letter of the ship that has been hit before it is replaced with a “h”

Use a For Loop to cycle through each ships to match the letter from the board with the first letter of each ship

If they match – then output the full ship name.

Your message should look like this:

“Hit Aircraft Carrier at (6,6)”

1. Include your amended PROGRAM SOURCE CODE for the subroutine MakePlayerMove

Test your code by loading the training map, then entering

a column value of 8 and a row value of 1

a column value of 7 and a row value of 6

a column value of 3 and a row value of 1

1. SCREEN CAPTURE(S) for the tests being made:

Q8

Following on from the last question – when a Ship is sunk – the program should display the message:

“You sunk my BattleShip (Name of Ship)” and indicate which ship has been sunk.

To complete this task you will first need to add to the existing structure:

1. Add a variable to the Structure TShip called Hits – this will be used to keep track of the number of hits that the ship has had.

Include your amended PROGRAM SOURCE CODE for the Structure titles TShip

1. Study the procedure MakePlayerMove – if a hit has occurred then you should perform the following:

* Identify which ship has been hit
* Add one to the Hits for that particular ship
* If the number of Hits is the same as the size of the ship then output the message

“You sunk my Battleship – Name”

Include your amended PROGRAM SOURCE CODE for the subroutine MakePlayerMove

Test your code by loading the training map, then entering

a column value of 1 and a row value of 4

a column value of 5 and a row value of 9

a column value of 1 and a row value of 5

a column value of 6 and a row value of 9

a column value of 4 and a row value of 9

a column value of 7 and a row value of 9

1. SCREEN CAPTURE(S) for the tests being made: