A Level Programming Exam

Paper 4 - Practice Assignment 1

Create a Google Docs file called Evidence and save the following for each question:
- **screenshots of the program running.**
- **paste in your code from idle/notepad ++ into the document as well**

Question 1

An array called Scores contains the following data: 5,6,2,9,7,4,1

1. Create the scores array and add the data
2. Create a bubble sort algorithm in a procedure that sorts the scores array.
3. Create a procedure that displays the scores before and after the array has been sorted.
4. Create a function that searches the unsorted scores array and returns the highest score.
5. Create a function that performs a binary search on the sorted array and returns a boolean response.Your function should take an input parameter score.
    a. Pass by reference the following values 4, 12

Save your code in a file called scores
Add a screenshot of your code and evidence of the code running for each subtask.

Question 2

A class called Book has the following attributes

- Name
- Author
- ISBN
- Publication Year

1. Declare the class and create a constructor for the class
2. Create a get method that returns the name of the author
3. Create a procedure add book that gets user input, creates an instance of book and adds the instantiated book to an array called books
4. Create a new class called libraryBook that inherits from the Book class. The book class should have an additional attribute called due_date that stores the date the book needs to be returned.

Question 3

1. Create a stack named stackData that contains a stack of up to 10 string items.
2. Create a function called push that adds an item to the stack and returns a False if the stack is full
3. Create a function called pop that returns the top item on the stack and removes it.
4. Create a function called peek that returns the top item of the stack
5. Create a procedure called display stack that displays the contents of the stack.

Question 4

1. Create an empty text file called partyattendees.txt
2. Create a procedure that allows you to add a new person to the text file
3. Create a procedure that reads the file and displays all attendees
4. Create a function that searches for an attendee and returns True/False if they are in the file.