Software Engineer in Test Assessment

Problem #1
Write a program that takes a text file as a parameter. The text file contains strings, one per line.
The program should read in the text file and write out a new text file named <file>-palindromes.txt
that contains only the words that are palindromes (the same word forward and backward).

Sample Input File Contents:
rotor
Dad
kayaks
Sad
kayak

Sample Output File Contents:
rotor
Dad
kyak

Problem #2
Write a Class called BankAccount that has 4 methods: getAmountFromConsole, deposit, withdraw,
balance
The getAmountFromConsole method should get user input from the console
The deposit method should ask for an amount to deposit and update the balance in the account.
The withdraw method should ask for an amount to withdraw and update the balance in the account.
The balance method should print out the current balance
Create an instance of the class and make some calls to prove the class works correctly.

Sample Console Output:
Please Enter a Deposit Amount: 5
Current Balance: 5
Please Enter a Deposit Amount: 15
Current Balance: 20
Please Enter a Withdraw Amount: 10
Current Balance: 10
Please Enter a Withdraw Amount: 15
Current Balance: -5

Problem #3
The attached python program has a couple errors. Debug and fix the errors so that the program
runs to completion and provides the expected output. Do not modify the test parameters, only
modify the code so that it provides the expected output. (hint: there are 3 "bugs" in the code that
need to be fixed).

Expected Console Output:
Please enter a 0 or 1!
0 1 1 2 3
1 1 2 3 5

1 1 2 3 5 8 13 21 34 55

Bonus Problem

Write code that converts the input JSON data to the output JSON format. It should be able to handle any number of levels of nesting. Each child can only have one parent (of type 'folder'), and each parent may have multiple children (of type 'folder' or 'file').

Deliverable should be the source code and a working console application that takes two parameters, input file and output file, reads in the input file, and writes the converted data to the output file.

Sample Input Data (InputJson.json is attached for use in testing):

```
[
{
        name:'file1',
        parent:'folder1',
        type:'file'
},
{
        name:'file2',
        parent:'folder2',
        type:'file'
},
{
        name:'folder1',
        parent:'root',
        type:'folder'
},
{
        name:'folder2',
        parent:'folder1',
        type:'folder'
}
]
```

Sample Output Data (OutputJson.json is attached for reference):

```
[
        {
                name:'folder1',
                parent:'root',
                type:'folder',
                children:[
                        {
                                name:'file1',
                                parent:'folder1',
                                 type:'file'
                        },
                        {
                                name:'folder2',
                                parent:'folder1',
                                type:'folder',
                                children:[
                                        {
                                                name:'file2',
                                                parent:'folder2',
                                                type:'file'
                                        }
                                ]
                        }
                ]
        }
]
```