Test_Ch6

Due Oct 17, 2018 at 10am   **Points** 30   **Questions** 2

Available Oct 17, 2018 at 8am - Oct 17, 2018 at 10am about 2 hours

Time Limit None   **Allowed Attempts** Unlimited

Instructions

Implement the java programs as per given descriptions. Please note the following :

- Write your name in every file that you are submitting for grading.
- You are allowed to:
  - use your textbook
  - look at your assignments on CI Learn
  - look up "Examples by Chapter" on CI Learn
  - look up lecture notes on CI Learn
  - look up java class documentation at: **http://docs.oracle.com/javase/8/docs/api/ (http://docs.oracle.com/javase/8/docs/api/)**
  - other internet searches are **NOT ALLOWED**
  - no other sources can be used
- You must work on the classroom computer. Please note that the instructor will be able to see all students desktops in real time on the instructor's computer through the classroom management tool called "Net Control 2".
- No restroom breaks are allowed.
- When finished, zip the files and submit on CI Learn for grading.

Complete exercises as listed.

Before starting each implementation write the algorithm in pseudocode in the file as a comment, and after that proceed with the coding. Use Scanner to handle the input.

This quiz was locked Oct 17, 2018 at 10am.

Attempt History

	Attempt	Time	Score
LATEST	**Attempt 1**	108 minutes	24 out of 30

Score for this attempt: **24** out of 30

Submitted Oct 17, 2018 at 9:48am

This attempt took 108 minutes.

Question 1	7 / 15 pts

Write a program that takes as an input a string representing a binary number. If the input does not represent a valid binary number the program should keep prompting the user for the new input until the string representing a valid binary number is entered by the user. Use a `do-while` loop for re-prompting for the correct input. Use `matches` method for the validation of the input.

Next, the program should convert the valid binary number to its decimal representation.

For instance, if the user inputs `110`, the output will be `6`

```
                0 times 2 to the power of 0
```

```
              + 1 times 2 to the power of 1
```

```
              + 1 times 2 to the power of 2
```

```
              = 6
```

You need to do this inside a `for` loop where you analyze each character one at a time. Notice, how in the above example the input characters **are processed backwards**.

Once the result is displayed the program asks the user if (s)he wants to covert another binary number.

See the sample run:

```
Enter a binary number >

123

Enter a binary number >

110

The decimal equivalent of binary number 110 is 6
```

```
        Would you like to convert another binary number? yes/no

        yes

        Enter a binary number >

        1111

        The decimal equivalent of binary number 1111 is 15



        Would you like to convert another binary number? yes/no

        no
```

⤓ **Question 1.zip
(https://cilearn.csuci.edu/files/648028/download)**

Question 2   10 / 15 pts

You have won a gift certificate (one of $50, $100, or $150). You must spend the money in a particular store from the preselected "mystery" items.

- The items' prices are in a file **prices.txt (https://cilearn.csuci.edu/files/531834/download?wrap=1)** 📄 **(https://cilearn.csuci.edu/files/531834/download?wrap=1)** .
- The store computer keeps track of the amount of money you have left to spend, as well as the number of items you have bought.
- Each time the item's price is presented to you the computer will tell you if you have enough money left to buy it; and if you have enough money you can choose to buy it or not.
- You can buy up to 5 items.
- Each item's price will be presented to you only **once**.
- It is possible **not to spend all** the money.
- The value of the gift certificate should be **randomly generated** utilizing `Random` class.

- The shopping spree is over if **either** you run out of money or you purchased 5 items

Define **two** `Scanner` objects: one to read from the <u>file</u> and another to read from the <u>keyboard</u>.

Use one `while` loop with conditional statements inside its block.

See sample runs:

Run#1

```
CONGRATULATIONS, you won $50.00
Let's start your SHOPPING SPREE; you can get up to 5
items.

The price of the next item is: 69.99
You have $50.00 available
You do not have enough money to buy this item.

The price of the next item is: 20.0
You have $50.00 available
Would you like to buy the item? (Yes/No)
yes
OK - adding the mystery item for $20.00 to your basket

The price of the next item is: 13.99
You have $30.00 available
Would you like to buy the item? (Yes/No)
yes
OK - adding the mystery item for $13.99 to your basket

The price of the next item is: 123.0
You have $16.01 available
You do not have enough money to buy this item.

The price of the next item is: 23.45
You have $16.01 available
You do not have enough money to buy this item.

The price of the next item is: 12.0
You have $16.01 available
```

```
Would you like to buy the item? (Yes/No)
yes
OK - adding the mystery item for $12.00 to your basket

The price of the next item is: 5.9
You have $4.01 available
You do not have enough money to buy this item.

The price of the next item is: 4.25
You have $4.01 available
You do not have enough money to buy this item.

The price of the next item is: 78.99
You have $4.01 available
You do not have enough money to buy this item.

The price of the next item is: 101.0
You have $4.01 available
You do not have enough money to buy this item.

The price of the next item is: 4.01
You have $4.01 available
Would you like to buy the item? (Yes/No)
yes
OK - adding the mystery item for $4.01 to your basket

The shopping spree is over!
Your basket has 4 items with the total value of $50.00
```

Run#2

```
CONGRATULATIONS, you won $100.00
Let's start your SHOPPING SPREE; you can get up to 5
items.

The price of the next item is: 69.99
You have $100.00 available
Would you like to buy the item? (Yes/No)
no
```

```
The price of the next item is: 20.0
You have $100.00 available
Would you like to buy the item? (Yes/No)
yes
OK - adding the mystery item for $20.00 to your basket


The price of the next item is: 13.99
You have $80.00 available
Would you like to buy the item? (Yes/No)
yes
OK - adding the mystery item for $13.99 to your basket


The price of the next item is: 123.0
You have $66.01 available
You do not have enough money to buy this item.


The price of the next item is: 23.45
You have $66.01 available
Would you like to buy the item? (Yes/No)
yes
OK - adding the mystery item for $23.45 to your basket


The price of the next item is: 12.0
You have $42.56 available
Would you like to buy the item? (Yes/No)
yes
OK - adding the mystery item for $12.00 to your basket


The price of the next item is: 5.9
You have $30.56 available
Would you like to buy the item? (Yes/No)
yes
OK - adding the mystery item for $5.90 to your basket


The shopping spree is over!
Your basket has 5 items with the total value of $75.34
```

Run#3

```
CONGRATULATIONS, you won $150.00
Let's start your SHOPPING SPREE; you can get up to 5
items.

The price of the next item is: 69.99
You have $150.00 available
Would you like to buy the item? (Yes/No)
yes
OK - adding the mystery item for $69.99 to your basket

The price of the next item is: 20.0
You have $80.01 available
Would you like to buy the item? (Yes/No)
no

The price of the next item is: 13.99
You have $80.01 available
Would you like to buy the item? (Yes/No)
no

The price of the next item is: 123.0
You have $80.01 available
You do not have enough money to buy this item.

The price of the next item is: 23.45
You have $80.01 available
Would you like to buy the item? (Yes/No)
yes
OK - adding the mystery item for $23.45 to your basket

The price of the next item is: 12.0
You have $56.56 available
Would you like to buy the item? (Yes/No)
no

The price of the next item is: 5.9
You have $56.56 available
Would you like to buy the item? (Yes/No)
yes
```

OK - adding the mystery item for $5.90 to your basket

The price of the next item is: 4.25
You have $50.66 available
Would you like to buy the item? (Yes/No)
yes
OK - adding the mystery item for $4.25 to your basket

The price of the next item is: 78.99
You have $46.41 available
You do not have enough money to buy this item.

The price of the next item is: 101.0
You have $46.41 available
You do not have enough money to buy this item.

The shopping spree is over!
Your basket has 4 items with the total value of
$103.59

Run#4

CONGRATULATIONS, you won $50.00
Let's start your SHOPPING SPREE; you can get up to 5
items.

The price of the next item is: 69.99
You have $50.00 available
You do not have enough money to buy this item.

The price of the next item is: 20.0
You have $50.00 available
Would you like to buy the item? (Yes/No)
no

The price of the next item is: 13.99
You have $50.00 available
Would you like to buy the item? (Yes/No)

```
no

The price of the next item is: 123.0
You have $50.00 available
You do not have enough money to buy this item.


The price of the next item is: 23.45
You have $50.00 available
Would you like to buy the item? (Yes/No)
no


The price of the next item is: 12.0
You have $50.00 available
Would you like to buy the item? (Yes/No)
no


The price of the next item is: 5.9
You have $50.00 available
Would you like to buy the item? (Yes/No)
no


The price of the next item is: 4.25
You have $50.00 available
Would you like to buy the item? (Yes/No)
no


The price of the next item is: 78.99
You have $50.00 available
You do not have enough money to buy this item.


The price of the next item is: 101.0
You have $50.00 available
You do not have enough money to buy this item.


The price of the next item is: 4.01
You have $50.00 available
Would you like to buy the item? (Yes/No)
yes
OK - adding the mystery item for $4.01 to your basket
```

```
The shopping spree is over!
Your basket has 1 items with the total value of $4.01
```

[⤓ **Question 2.zip**
(https://cilearn.csuci.edu/files/648030/download)](https://cilearn.csuci.edu/files/648030/download)

Quiz Score: **24** out of 30

This quiz score has been manually adjusted by +7.0 points.