DAM. UNIT 1. ACCESS TO FILES PART 1. NON ASSESSABLE EXERCISES

DAM. Acceso a Datos (ADA) (a distancia en inglés)

Unit 1. ACCESS TO FILES

Part 1. Intro, Java review and basic file access. Non assessable exercises

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Based and modified from Sergio Badal (www.sergiobadal.com)
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Tips for programming

We advice to follow the next coding standards:

- One instruction per line.
- Add comments to make your code clearer and more readable.
- Use the Hungarian notation to recognise the type of variables at first sight.
- Remember that there are several ways to implement a solution, so choose the one you like best. **We strongly recommend using buffer-based solutions**.

1. Console mode. Basic file access

Activity (non assessable)

Try to solve these 10 exercises. Feel free to share your doubts at the UNIT forum.

1. Write a Java program to get a list of all file/directory names from the given.
2. Write a Java program to get specific files by extensions from a specified folder.
3. Write a Java program to check if a file or directory specified by pathname exists or not.
4. Write a Java program to get last modified time of a file.
5. Write a Java program to get file size in bytes, Kb, Mb.
6. Write a Java program to read a file content line by line.
7. Write a Java program to store text file content line by line into an array.
8. Write a Java program to write and read a plain text file.
9. Write a Java program to append text to an existing file.
10. Write a Java program to find the longest word in a text file. Choose the way to implement: Scanner or BufferedReader version.

2. Console mode. Complete file access. Shopping cart

Activity (non assessable)

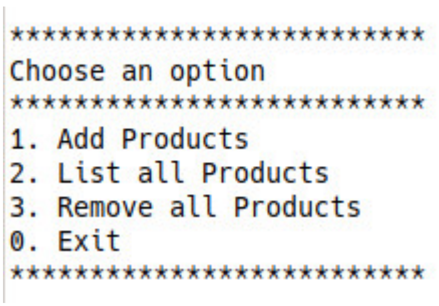
Create a program in Java to manage PRODUCTS in a shopping cart by printing and using a specific menu. After each option, the user should see the same menu until option zero is pressed. Feel free to share your doubts at the UNIT forum.

ATTENTION: Use the proper exceptions when accessing to files.

Menu options:

- **Press 1 to “Ask for products until user enters zero as Product name“**
  - For every product we need the Name (String), the Price (Double) and the Units (Integer), added to the ArrayList of products.
  - Once zero is entered as a Product name, all products will be saved in a “txt” file called “products.txt”, overwriting the whole file if exists.
  - One product is stored per line.
  - Afterwards, the menu will be printed again.
- **Press 2 to “List all the products stored”**
  - Just read the “txt” file and print every book.
- **Press 3 to “Remove all products”**
  - Just delete the “txt” file.
- **Press 0 to “Exit”**

Menu example:



```
**************************
Choose an option
**************************
1. Add Products
2. List all Products
3. Remove all Products
0. Exit
**************************
```

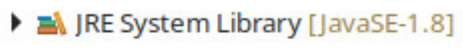
3. Graphical mode. Complete file access. Shopping cart

Activity (non assessable)

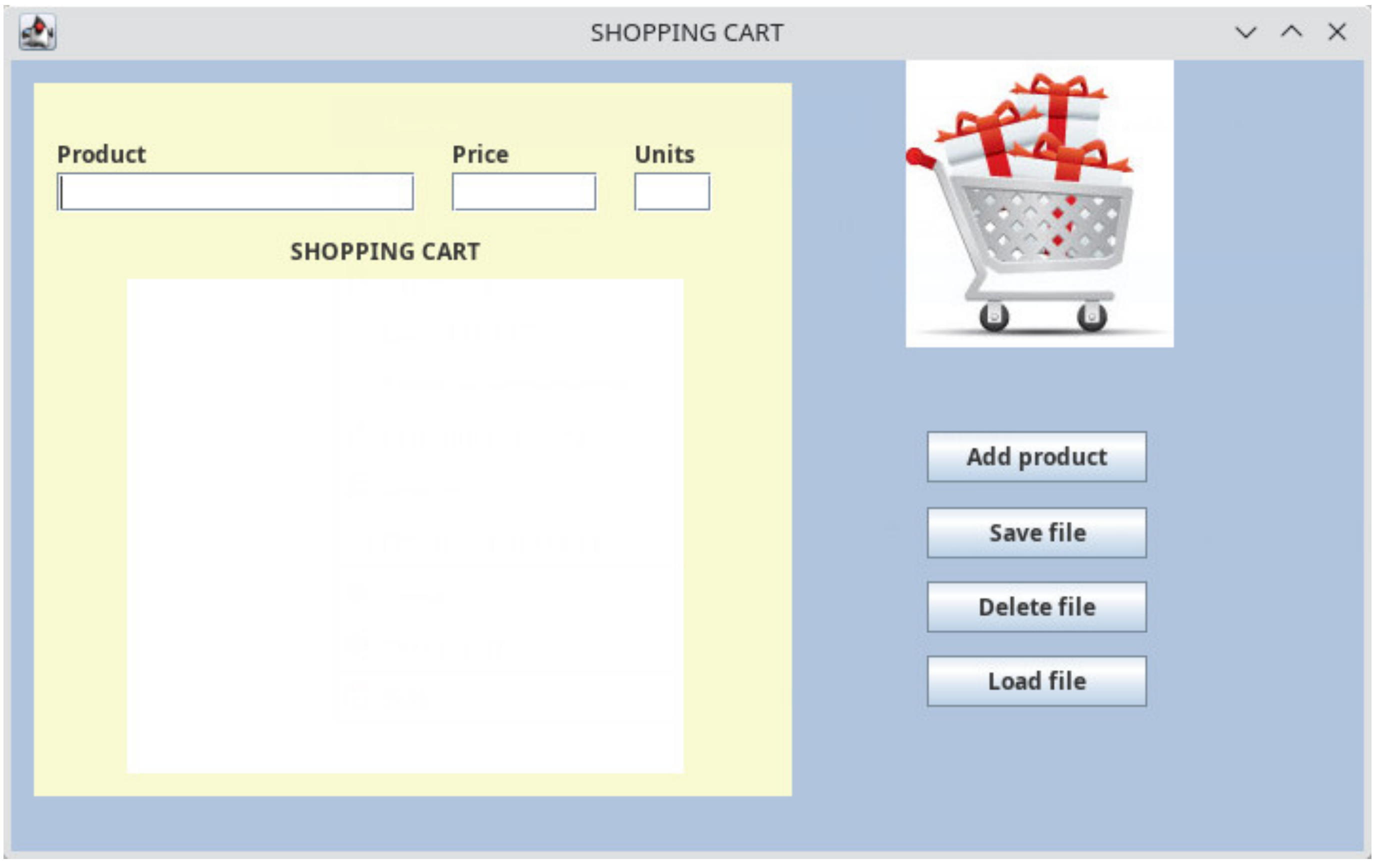
Convert the former program to a graphical environment using the Java GUI interface. Feel free to share your doubts at the UNIT forum.

ATTENTION: Use the proper exceptions when accessing to files.

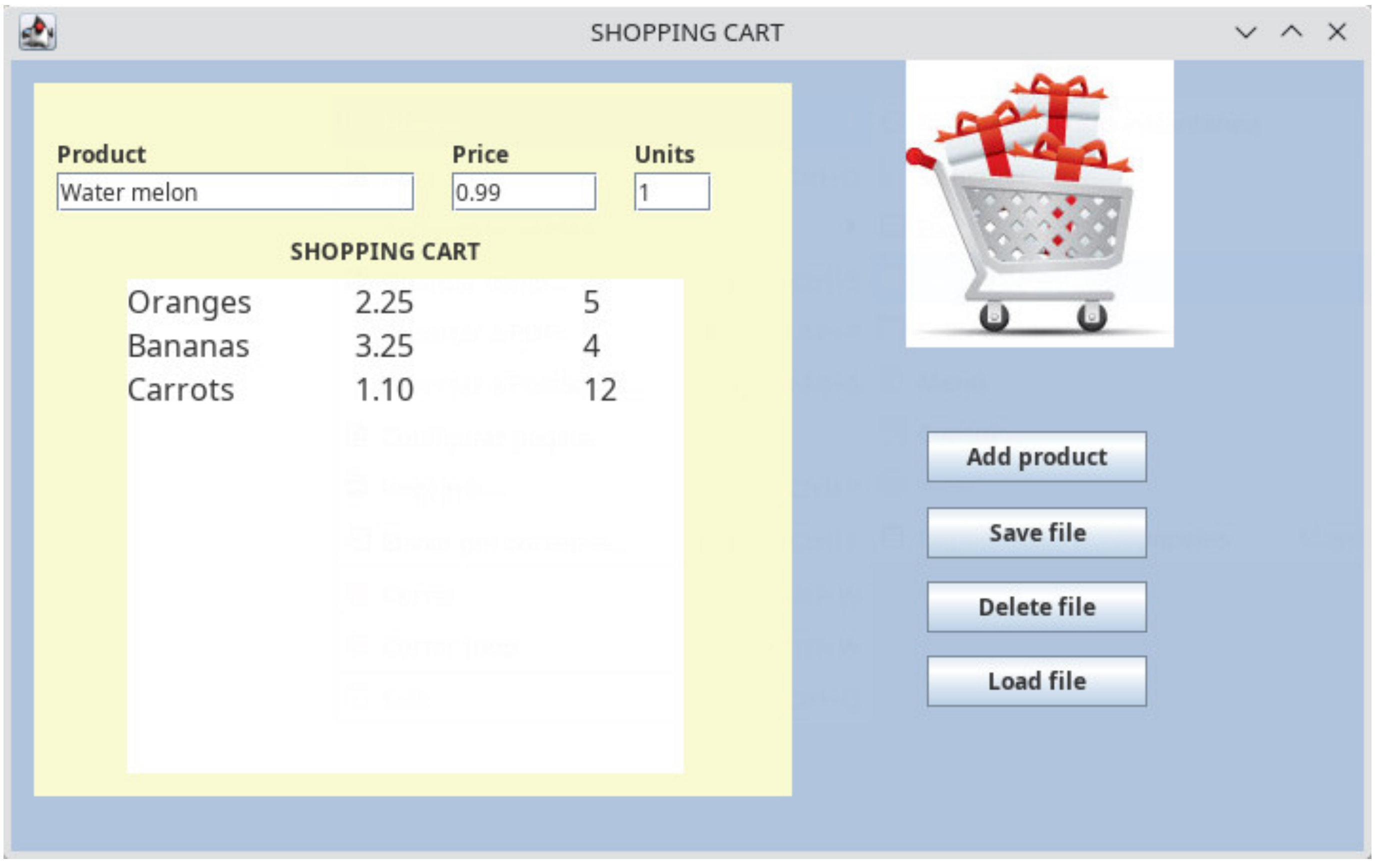
Remember to choose this **Java version** when creating a GUI project:


JRE System Library [JavaSE-1.8]

- **Create the graphical objects: labels, text fields, buttons, images. Customize the elements with your own design.**
  - Create project with Java JRE 1.8 machine.
  - To distribute the objects in a free way, use: JFrame → property Layout → Absolute layout.
  - For example:



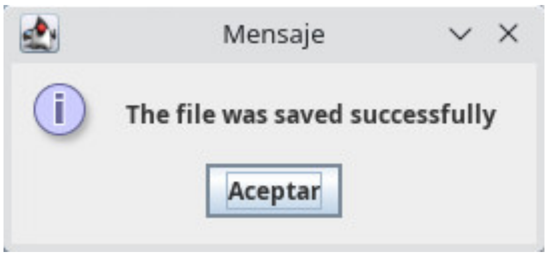
- **Button Add Product.**
  - Adds the product information (name -string-, price -double- and units -integer-) to the shopping cart (textArea).
  - Every field must be separated by a tab.
  - Every product in a different line.
  - For example:



Water melon 0.99 1

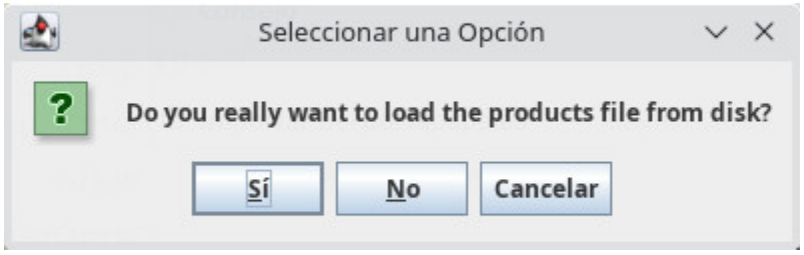
Oranges	2.25	5
Bananas	3.25	4
Carrots	1.10	12

- **Button Save file.**
  - All products will be saved in a text file called “products.txt”, overwriting the whole file if exists.
  - Every product in a different line.
  - Show a message dialogue with the result. For example:



The file was saved successfully

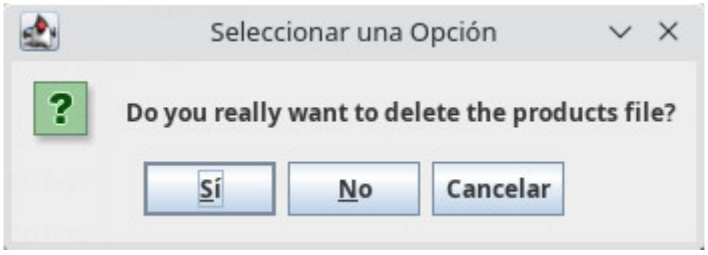
- **Button Load file.**
  - Ask the user if he/she is sure to do it. For example:


Seleccionar una Opción

Do you really want to load the products file from disk?

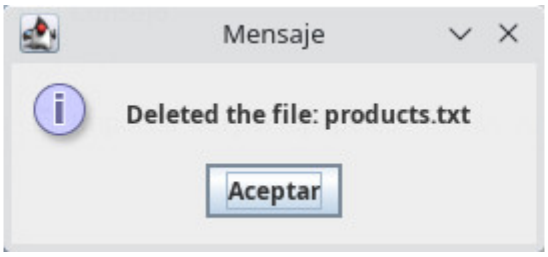
  - If yes, then clear the text area, read the text file line by line and fill in the text area with every product.

- **Button Delete file.**
  - Ask the user if he/she is sure to do it. For example:


Seleccionar una Opción

Do you really want to delete the products file?

  - If yes, delete the text file. For example:


Mensaje

Deleted the file: products.txt

- **Exit the programme/program.**
  - Quit by default; that is, when you click on the “x” you close the application.