```
Please select an option from the menu below
1. Select directory
2. List directory content (first level)
3. List directory content (all levels)
4. Delete file
5. Display file (hexadecimal view)
6. Encrypt file (XOR with password)
7. Decrypt file (XOR with password)
Q. Quit program
2
A directory has not been selected, please select one (option 1) before continuing

Please select an option from the menu below
1. Select directory
2. List directory content (first level)
3. List directory content (all levels)
4. Delete file
5. Display file (hexadecimal view)
6. Encrypt file (XOR with password)
7. Decrypt file (XOR with password)
Q. Quit program
3
A directory has not been selected, please select one (option 1) before continuing

Please select an option from the menu below
1. Select directory
2. List directory content (first level)
3. List directory content (all levels)
4. Delete file
5. Display file (hexadecimal view)
6. Encrypt file (XOR with password)
7. Decrypt file (XOR with password)
Q. Quit program
4
A directory has not been selected, please select one (option 1) before continuing

Please select an option from the menu below
1. Select directory
2. List directory content (first level)
3. List directory content (all levels)
4. Delete file
5. Display file (hexadecimal view)
6. Encrypt file (XOR with password)
7. Decrypt file (XOR with password)
Q. Quit program
5
A directory has not been selected, please select one (option 1) before continuing
```

Figure 1. Test case #1. Options 2-5 when a directory has not been selected.

```
Please select an option from the menu below
1. Select directory
2. List directory content (first level)
3. List directory content (all levels)
4. Delete file
5. Display file (hexadecimal view)
6. Encrypt file (XOR with password)
7. Decrypt file (XOR with password)
Q. Quit program
6
A directory has not been selected, please select one (option 1) before continuing

Please select an option from the menu below
1. Select directory
2. List directory content (first level)
3. List directory content (all levels)
4. Delete file
5. Display file (hexadecimal view)
6. Encrypt file (XOR with password)
7. Decrypt file (XOR with password)
Q. Quit program
7
A directory has not been selected, please select one (option 1) before continuing

Please select an option from the menu below
1. Select directory
2. List directory content (first level)
3. List directory content (all levels)
4. Delete file
5. Display file (hexadecimal view)
6. Encrypt file (XOR with password)
7. Decrypt file (XOR with password)
Q. Quit program
this is invalid input
That was not a vailid selection, please try again

Please select an option from the menu below
1. Select directory
2. List directory content (first level)
3. List directory content (all levels)
4. Delete file
5. Display file (hexadecimal view)
6. Encrypt file (XOR with password)
7. Decrypt file (XOR with password)
Q. Quit program
q
Exiting program
```

Figure 2. Test case #2. Options 6&7 when no directory has been selected. Also testing invalid input and quitting the program.

```
1
Please enter the directory:
C:\Users\munki\Documents\Java\Homework6\Homework 6.pdf
"C:\Users\munki\Documents\Java\Homework6\Homework 6.pdf" is a file and not a valid directory. Please enter a valid one:
C:\Users\munki\Documents\Java\Homewor
"C:\Users\munki\Documents\Java\Homewor" is not a valid file path. Please enter a valid one:
C:\Users\munki\Documents\Java\Homework6

Valid path: Directory is now C:\Users\munki\Documents\Java\Homework6
```

Figure 3. Test case #3. Showing how invalid and valid input are handled in option one.

```
2
The files in the first level of : "C:\Users\munki\Documents\Java\Homework6" are:

build
build.xml
Delete - Copy.txt
Delete.txt
Homework 6.pdf
manifest.mf
nbproject
src
test

Please select an option from the menu below
```

Figure 4. Test case #4. Showing all files/folders within the first level of the given directory.
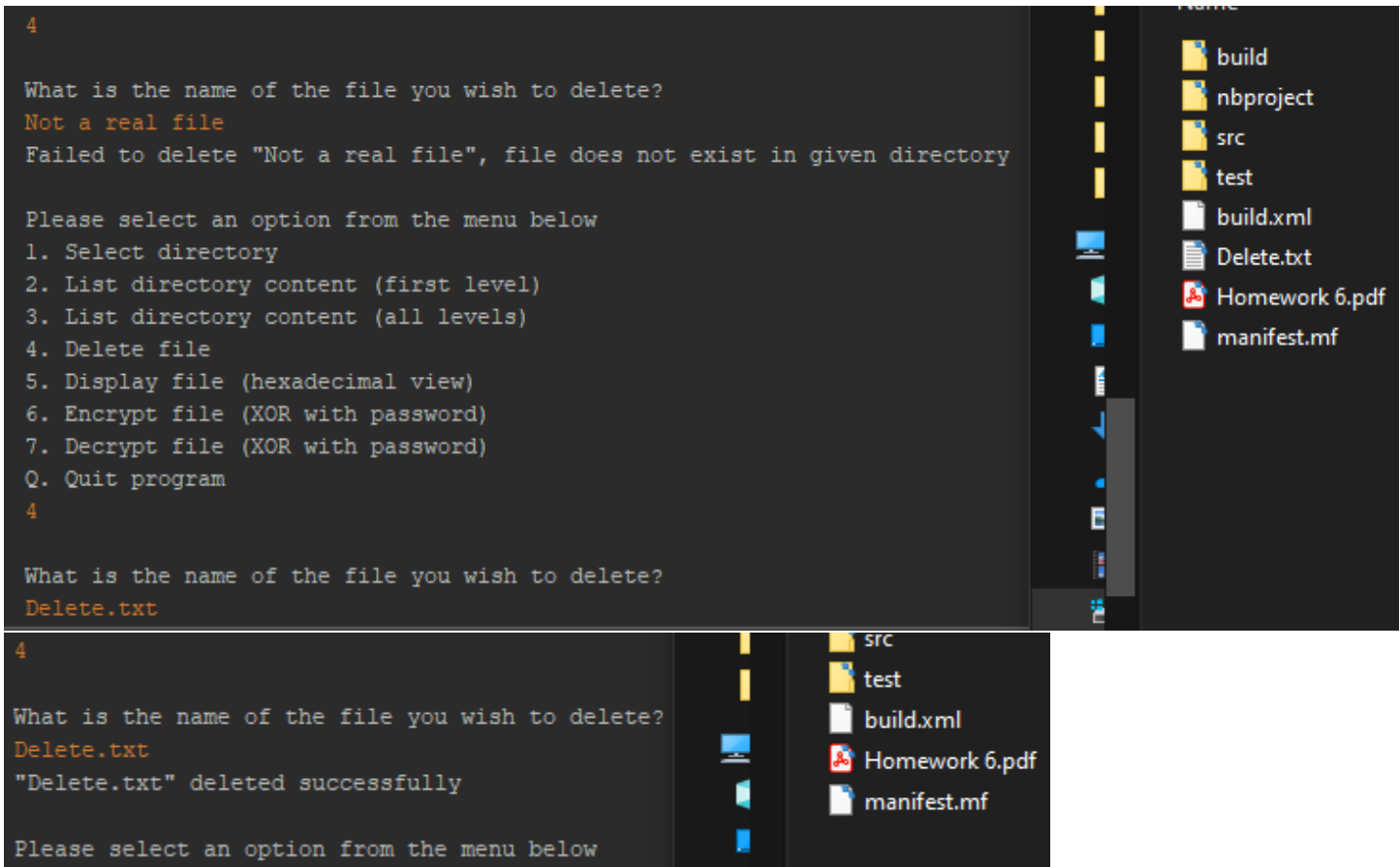
```
3
The files in all levels of : "C:\Users\munki\Documents\Java\Homework6" are:

C:\Users\munki\Documents\Java\Homework6\build\classes\.netbeans_automatic_build
C:\Users\munki\Documents\Java\Homework6\build\classes\.netbeans_update_resources
C:\Users\munki\Documents\Java\Homework6\build\classes\Homework6.class
C:\Users\munki\Documents\Java\Homework6\build.xml
C:\Users\munki\Documents\Java\Homework6\Delete.txt
C:\Users\munki\Documents\Java\Homework6\Homework 6.pdf
C:\Users\munki\Documents\Java\Homework6\manifest.mf
C:\Users\munki\Documents\Java\Homework6\nbproject\build-impl.xml
C:\Users\munki\Documents\Java\Homework6\nbproject\genfiles.properties
C:\Users\munki\Documents\Java\Homework6\nbproject\private\private.properties
C:\Users\munki\Documents\Java\Homework6\nbproject\private\private.xml
C:\Users\munki\Documents\Java\Homework6\nbproject\project.properties
C:\Users\munki\Documents\Java\Homework6\nbproject\project.xml
C:\Users\munki\Documents\Java\Homework6\src\Homework6.java

Please select an option from the menu below
```

Figure 5. Test case #5. Showing all files/folders in all levels of the given directory.

```
4

What is the name of the file you wish to delete?
Not a real file
Failed to delete "Not a real file", file does not exist in given directory

Please select an option from the menu below
1. Select directory
2. List directory content (first level)
3. List directory content (all levels)
4. Delete file
5. Display file (hexadecimal view)
6. Encrypt file (XOR with password)
7. Decrypt file (XOR with password)
Q. Quit program
4

What is the name of the file you wish to delete?
Delete.txt
```

build
nbproject
src
test
build.xml
Delete.txt
Homework 6.pdf
manifest.mf

```
4

What is the name of the file you wish to delete?
Delete.txt
"Delete.txt" deleted successfully

Please select an option from the menu below
```

src
test
build.xml
Homework 6.pdf
manifest.mf

Figures 6 & 7. Test case #6. Showing how valid and invalid deletion is handled.

```
5

What is the name of the file you wish to see in hexadecimal view?
Home
"Home" was not found in the directory

Please select an option from the menu below
1. Select directory
2. List directory content (first level)
3. List directory content (all levels)
4. Delete file
5. Display file (hexadecimal view)
6. Encrypt file (XOR with password)
7. Decrypt file (XOR with password)
Q. Quit program
5

What is the name of the file you wish to see in hexadecimal view?
Homework 6.pdf
25 50 44 46 2D 31 2E 35 0D 0A 25 B5 B5 B5 B5 0D
0A 31 20 30 20 6F 62 6A 0D 0A 3C 3C 2F 54 79 70
65 2F 43 61 74 61 6C 6F 67 2F 50 61 67 65 73 20
32 20 30 20 52 2F 4C 61 6E 67 28 65 6E 2D 55 53
29 20 2F 53 74 72 75 63 74 54 72 65 65 52 6F 6F
74 20 33 32 20 30 20 52 2F 4D 61 72 6B 49 6E 66
6F 3C 3C 2F 4D 61 72 6B 65 64 20 74 72 75 65 3E
3E 3E 3E 0D 0A 65 6E 64 6F 62 6A 0D 0A 32 20 30
20 6F 62 6A 0D 0A 3C 3C 2F 54 79 70 65 2F 50 61
67 65 73 2F 43 6F 75 6E 74 20 33 2F 4B 69 64 73
5B 20 33 20 30 20 52 20 31 38 20 30 20 52 20 32
32 20 30 20 52 5D 20 3E 3E 0D 0A 65 6E 64 6F 62
6A 0D 0A 33 20 30 20 6F 62 6A 0D 0A 3C 3C 2F 54
79 70 65 2F 50 61 67 65 2F 50 61 72 65 6E 74 20
32 20 30 20 52 2F 52 65 73 6F 75 72 63 65 73 3C
3C 2F 46 6F 6E 74 3C 3C 2F 46 31 20 35 20 30 20
52 2F 46 32 20 39 20 30 20 52 2F 46 33 20 31 31
20 30 20 52 2F 46 34 20 31 33 20 30 20 52 3E 3E
2F 45 78 74 47 53 74 61 74 65 3C 3C 2F 47 53 37
20 37 20 30 20 52 2F 47 53 38 20 38 20 30 20 52
3E 3E 2F 50 72 6F 63 53 65 74 5B 2F 50 44 46 2F
54 65 78 74 2F 49 6D 61 67 65 42 2F 49 6D 61 67
65 43 2F 49 6D 61 67 65 49 5D 20 3E 3E 2F 4D 65
64 69 61 42 6F 78 5B 20 30 20 30 20 35 39 35 2E
34 34 20 38 34 31 2E 36 38 5D 20 2F 43 6F 6E 74
65 6E 74 73 20 34 20 30 20 52 2F 47 72 6F 75 70
3C 3C 2F 54 79 70 65 2F 47 72 6F 75 70 2F 53 2F
41 37 32 33 34 32 36 36 44 42 30 44 43 46 45 3E
3C 38 36 37 33 37 38 44 34 34 42 32 32 41 38 34
36 42 41 37 32 33 34 32 36 36 44 42 30 44 43 46
45 3E 5D 20 2F 50 72 65 76 20 32 30 31 35 36 30
2F 58 52 65 66 53 74 6D 20 32 30 31 30 34 34 3E
3E 0D 0A 73 74 61 72 74 78 72 65 66 0D 0A 32 30
34 33 34 30 0D 0A 25 25 45 4F 46

Please select an option from the menu below
```

Figures 8 & 9. Test case #7. Invalid and valid selections for displaying a file in hexadecimal.

```
6

What is the name of the file you wish to encrypt?
Invalid file name
"Invalid file name" was not found in the current directory

Please select an option from the menu below
1. Select directory
2. List directory content (first level)
3. List directory content (all levels)
4. Delete file
5. Display file (hexadecimal view)
6. Encrypt file (XOR with password)
7. Decrypt file (XOR with password)
Q. Quit program
6

What is the name of the file you wish to encrypt?
Homework 6.pdf
Please enter a password to encrypt the file:

Password was too long or left blank, please try again:
thispasswordistoolongthispasswordistoolongthispasswordistoolongthispasswordistoolongthispasswordistoolongthispasswordistoolongthispasswordis
Password was too long or left blank, please try again:
valid password
Please choose a name for the encrypted file
昨日すき焼きを食べました
Invalid name for outgoing file. Unable to write it.
```

Figure 10. Test case #8. Invalid selections for encrypting a file and choosing a password. Also shows how invalid output file names are handled.

```
Q. Quit program
6

What is the name of the file you wish to encrypt?
Homework 6.pdf
Please enter a password to encrypt the file:
Qwertyuiop[123$4$567]
Please choose a name for the encrypted file
Encrypted.pdf
File encrypted successfully

Please select an option from the menu below
1. Select directory
2. List directory content (first level)
```

| | Encrypted.pdf | 4/19/2021 4:52 PM | Adobe Acrobat D... |
| | Homework 6.pdf | 3/10/2021 10:46 PM | Adobe Acrobat D... |

Acrobat Reader

Adobe Acrobat Reader could not open 'Encrypted.pdf' because it is either not a supported file type or because the file has been damaged (for example, it was sent as an email attachment and wasn't correctly decoded).

OK

Figure 11. Test case #9. Successful creation of encrypted file and showing how it can't be read properly.

```
5. Display file (hexadecimal view)
6. Encrypt file (XOR with password)
7. Decrypt file (XOR with password)
Q. Quit program
7

What is the name of the file you wish to decrypt?
Encrypted.pdf
Please enter a password to decrypt the file:
This is the wrong password
Please choose a name for the decrypted file
Failed Decryption (wrong password).pdf
No errors in decrypting attempt, if password was valid the file will open properly

Please select an option from the menu below
```

Acrobat Reader

Adobe Acrobat Reader could not open 'Failed Decryption (wrong password).pdf' because it is either not a supported file type or because the file has been damaged (for example, it was sent as an email attachment and wasn't correctly decoded).

OK

Figure 12. Test case #10. Failed decryption of file leads to the file being unreadable.

```
7
What is the name of the file you wish to decrypt?
Encrypted.pdf
Please enter a password to decrypt the file:
Qwertyuiop[123$4%567]
Please choose a name for the decrypted file
Decrypted.pdf
No errors in decrypting attempt, if password was valid the file will open properly

Please select an option from the menu below
1. Select directory
2. List directory content (first level)
3. List directory content (all levels)
4. Delete file
5. Display file (hexadecimal view)
6. Encrypt file (XOR with password)
7. Decrypt file (XOR with password)
Q. Quit program

That was not a vailid selection, please try again

Please select an option from the menu below
1. Select directory
2. List directory content (first level)
3. List directory content (all levels)
4. Delete file
5. Display file (hexadecimal view)
6. Encrypt file (XOR with password)
7. Decrypt file (XOR with password)
Q. Quit program
doing this to move it up
That was not a vailid selection, please try again

Please select an option from the menu below
1. Select directory
2. List directory content (first level)
3. List directory content (all levels)
4. Delete file
5. Display file (hexadecimal view)
6. Encrypt file (XOR with password)
7. Decrypt file (XOR with password)
Q. Quit program
```

File/directory processing

Write a Java, C# or C/C++ program (the choice is yours) for file/directory processing according to the following rules. The program requested for this project must have a text menu like this:

0 – Exit
1 – Select directory
2 – List directory content (first level)
3 – List directory content (all levels)
4 – Delete file
5 – Display file (hexadecimal view)
6 – Encrypt file (XOR with password)
7 – Decrypt file (XOR with password)
Select option:

The menu is displayed and the user must select an option (a number between 0 and 7). The action corresponding to the selection is performed, then the menu displayed again and the user can choose another option. This cycle is repeated until the user selects 0, which exits the loop and ends the program.

The options are:

0 – Exit
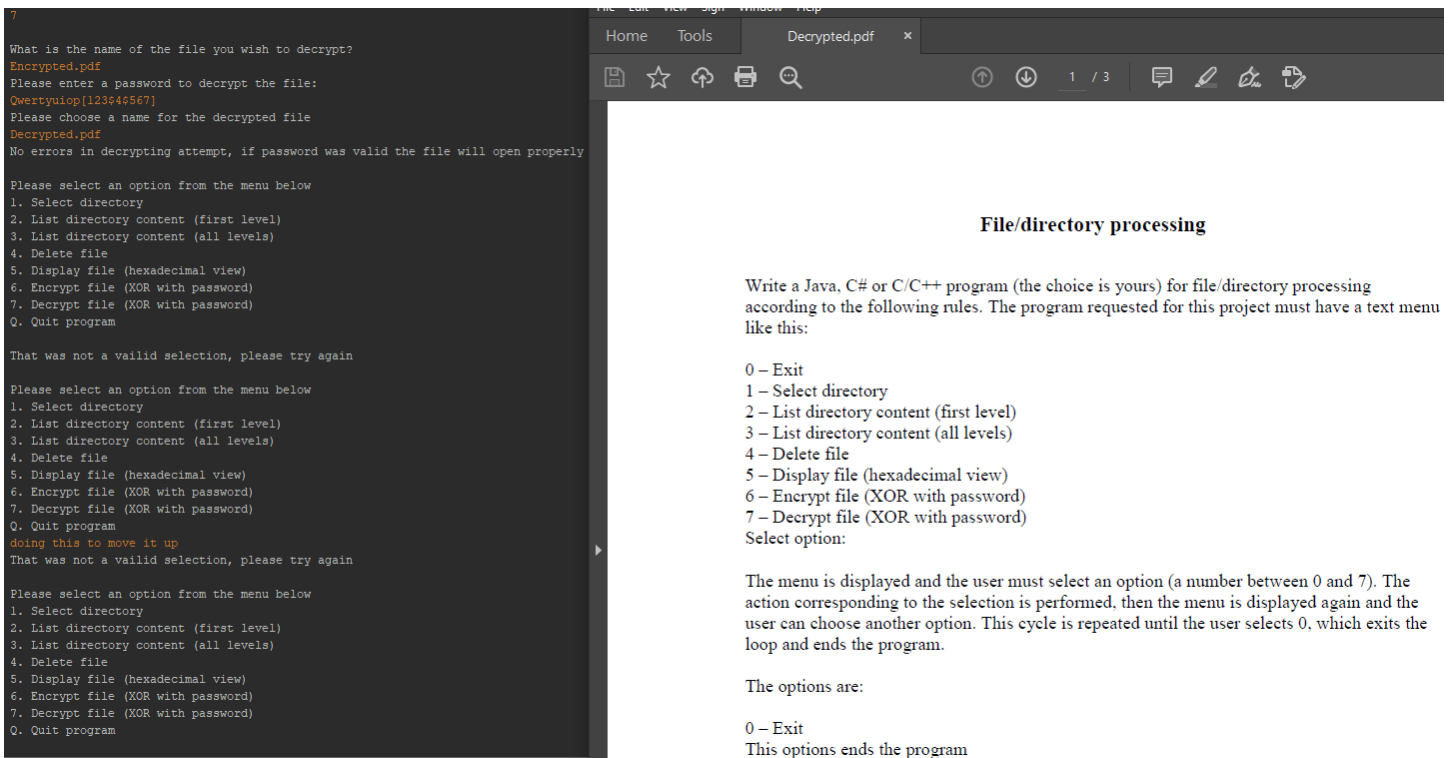This options ends the program

Figure 13. Test case #11. Successful decryption of file leads to a copy of the original file.