



Δομες Δεδομένων – Εργασία 3

**Τμήμα Πληροφορικής
Ακαδημαϊκό Έτος 2017-2018**

Στοιχεία Ομάδας

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Τα αρχεία που περιέχονται στο αρχείο .zip, εκτός από το project3-report.pdf, είναι τα παρακάτω:

Πηγαίος κώδικας

- BookInfo.java
- EmptyListException.java
- List.java
- ST.java
- SystemMenu.java

Σύντομη αναφορά υλοποίησης

Έχουμε υλοποιήσει όλα τα ζητούμενα της εργασίας και με την ονοματολογία που απαιτείται. Αυτά που δε λειτουργούν σωστά είναι: η εισαγωγή στην ταξινομημένη λίστα μονής σύνδεσης (σε κάποιες αδιευκρίνιστες περιπτώσεις) και η αφαίρεση αποθήκης από το τυχαιοποιημένο Δέντρο Δυαδικής Αναζήτησης.

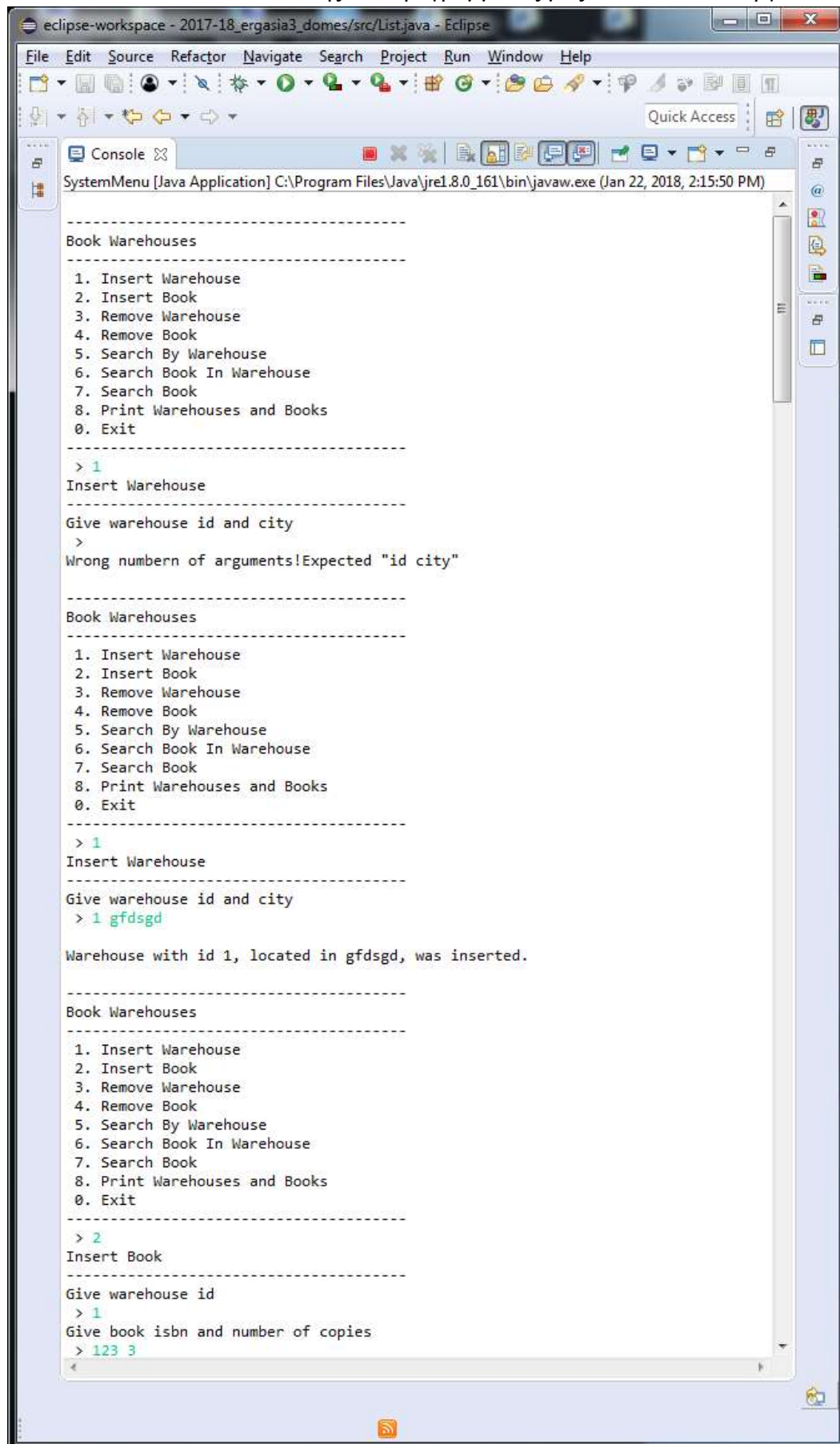
Χρησιμοποιήσαμε κώδικα του εργαστηρίου για λίστες, που τον προσαρμόσαμε για να φτιάξουμε λίστα μονής σύνδεσης με αντικείμενα τύπου BookInfo. Για να είναι ταξινομημένη η λίστα, σε κάθε εισαγωγή βάζουμε τον κόμβο στη σωστή του θέση κατά αύξουσα σειρά isbn. Για τα τυχαιοποιημένα ΔΔΑ βασιστήκαμε στον κώδικα του εργαστηρίου για ΔΔΑ και στις αναφορές στις διαφάνειες και στο βιβλίο για υλοποίηση εισαγωγής και αφαίρεσης σε τυχαιοποιημένα ΔΔΑ.

Παρόλα αυτά κάτι δεν πάει καλά και βρίσκει και εμφανίζει μόνο το βιβλίο με το μικρότερο id κάθε λίστας.

Παρόλο που για την αφαίρεση κόμβου από τυχαιοποιημένο ΔΔΑ, εφαρμόσαμε ό, τι αναφέρεται στο βιβλίο και στις διαφάνειες, κάτι δεν έχουμε υλοποιήσαμε σωστά και η μέθοδος `removeWarehouse()` δεν αφαιρεί πράγματι μια αποθήκη από το δέντρο. Όταν κάνουμε εκτύπωση του δέντρου εμφάνιση και την αποθήκη που υποτίθεται αφαιρέσαμε. Πρέπει να έχουμε κάνει κάποιο λάθος χειρισμό με τη μείωση του N σε κάθε κόμβο και του size του Δέντρου. Κάναμε διάφορες δοκιμές, αλλά το αφήσαμε ως έχει για να μη δημιουργήσουμε πρόβλημα κατά λάθος στις υπόλοιπες λειτουργίες, που δουλεύουν σωστά.

Υπάρχουν σχόλια, όπου είναι απαραίτητο, σε διάφορα σημεία του κώδικά μας, που εξηγούν τι ακριβώς κάνουμε. Σε πολλά σημεία κάνουμε έλεγχο τιμών, και φροντίζουμε να πετάγεται `exception`, αλλά δεν έχουμε προλάβει να βάλουμε `blocks try-catch` στα σημεία που είναι πιθανόν να πεταχτεί `exception`, ώστε να εμφανίζεται το κατάλληλο μήνυμα σφάλματος. Για την εμφάνιση όλων των βιβλίων όλων των αποθηκών, επιλέξαμε να κάνουμε ενδοδιατεταγμένη διάσχιση του δέντρου για να εμφανίζονται οι αποθήκες με αύξουσα σειρά id.

Παρατίθενται **screenshots** εκτέλεσης του προγράμματός μας, που όλα λειτουργούν σωστά.



```
eclipse-workspace - 2017-18_ergasia3_domes/src/List.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access

Console
SystemMenu [Java Application] C:\Program Files\Java\jre1.8.0_161\bin\javaw.exe (Jan 22, 2018, 2:15:50 PM)

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 1
Insert Warehouse
-----
Give warehouse id and city
>
Wrong numbern of arguments!Expected "id city"

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 1
Insert Warehouse
-----
Give warehouse id and city
> 1 gfdsgd

Warehouse with id 1, located in gfdsgd, was inserted.

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 2
Insert Book
-----
Give warehouse id
> 1
Give book isbn and number of copies
> 123 3
```

```
eclipse-workspace - 2017-18_ergasia3_domes/src/List.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Console
SystemMenu [Java Application] C:\Program Files\Java\jre1.8.0_161\bin\javaw.exe (Jan 22, 2018, 2:15:50 PM)
8. Print Warehouses and Books
0. Exit
-----
> 2
Insert Book
-----
Give warehouse id
> 1
Give book isbn and number of copies
> 123 3
Book with isbn 123 was inserted (No. of copies: 3) in Warehouse with id 1.
-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 2
Insert Book
-----
Give warehouse id
> 1
Give book isbn and number of copies
> 123 3
Book with isbn 123 was inserted (No. of copies: 3) in Warehouse with id 1.
-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 8
Print Warehouses and Books
-----
Warehouse 1 located in gfdsgd:
Book 123, copies: 6
-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
```

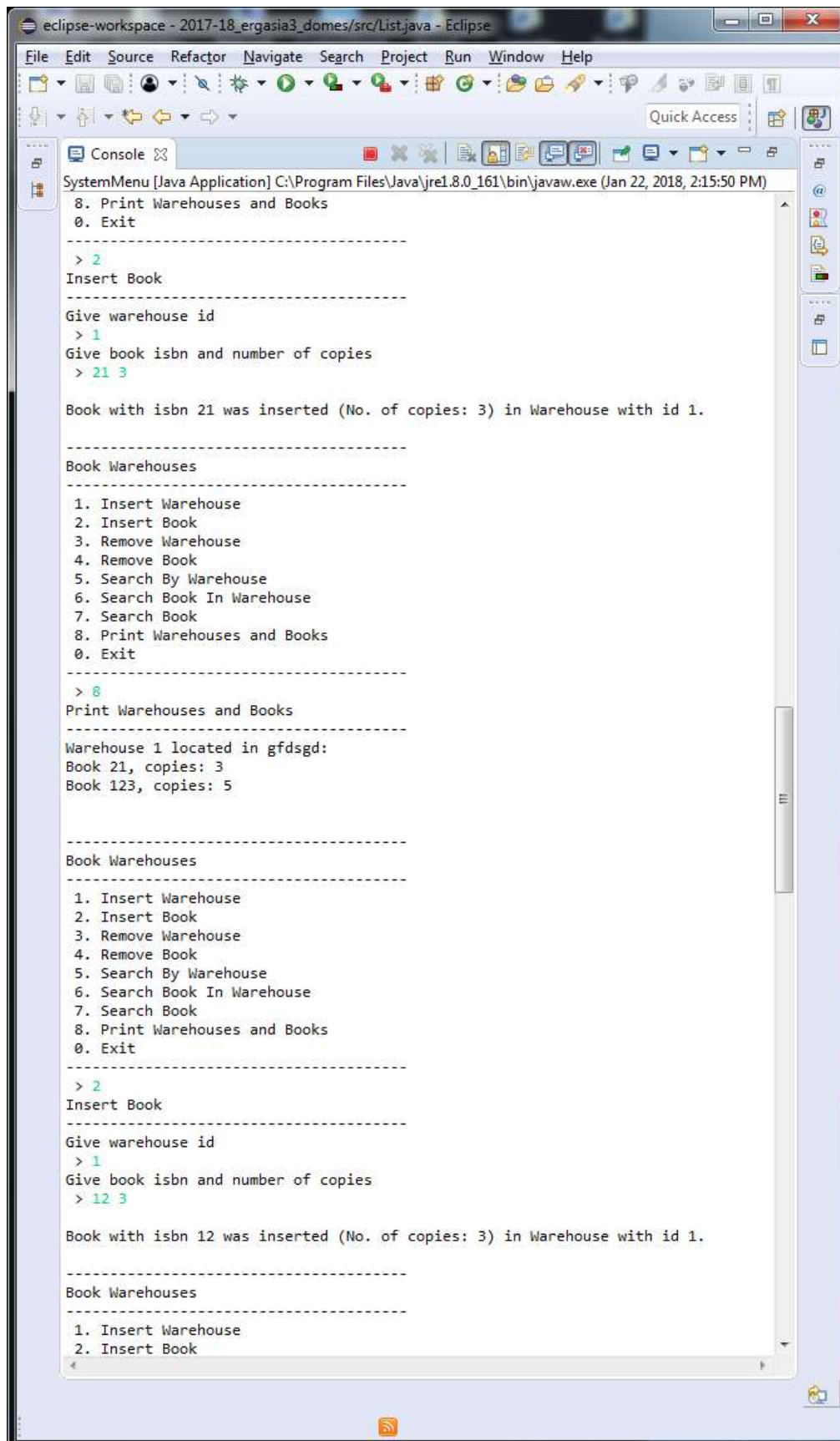
```
eclipse-workspace - 2017-18_ergasia3_domes/src/List.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Console
SystemMenu [Java Application] C:\Program Files\Java\jre1.8.0_161\bin\javaw.exe (Jan 22, 2018, 2:15:50 PM)

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 4
Remove Book
-----
Give warehouse id
> 1
Give book isbn
> 123

One copy of book with isbn 123 was removed from Warehouse with id 1.

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 8
Print Warehouses and Books
-----
Warehouse 1 located in gfdsgd:
Book 123, copies: 5

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 2
Insert Book
-----
Give warehouse id
> 1
Give book isbn and number of copies
```



```
eclipse-workspace - 2017-18_ergasia3_domes/src/List.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Console
SystemMenu [Java Application] C:\Program Files\Java\jre1.8.0_161\bin\javaw.exe (Jan 22, 2018, 2:15:50 PM)
8. Print Warehouses and Books
0. Exit
-----
> 2
Insert Book
-----
Give warehouse id
> 1
Give book isbn and number of copies
> 21 3

Book with isbn 21 was inserted (No. of copies: 3) in Warehouse with id 1.

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 8
Print Warehouses and Books
-----
Warehouse 1 located in gfdsgd:
Book 21, copies: 3
Book 123, copies: 5

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 2
Insert Book
-----
Give warehouse id
> 1
Give book isbn and number of copies
> 12 3

Book with isbn 12 was inserted (No. of copies: 3) in Warehouse with id 1.

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
```



```
eclipse-workspace - 2017-18_ergasia3_domes/src/List.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Console
SystemMenu [Java Application] C:\Program Files\Java\jre1.8.0_161\bin\javaw.exe (Jan 22, 2018, 2:15:50 PM)

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit

> 8
Print Warehouses and Books
-----
Warehouse 1 located in gfdsgd:
Book 12, copies: 3
Book 21, copies: 3
Book 123, copies: 5

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit

> 1
Insert Warehouse
-----
Give warehouse id and city
> 3
Wrong numbern of arguments!Expected "id city"

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit

> 1
Insert Warehouse
-----
Give warehouse id and city
> 3 athens
```

```
eclipse-workspace - 2017-18_ergasia3_domes/src/List.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Console
SystemMenu [Java Application] C:\Program Files\Java\jre1.8.0_161\bin\javaw.exe (Jan 22, 2018, 2:15:50 PM)

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 1
Insert Warehouse
-----
Give warehouse id and city
> 3 athens

Warehouse with id 3, located in athens, was inserted.

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 2
Insert Book
-----
Give warehouse id
> 3
Give book isbn and number of copies
> 123 3

Book with isbn 123 was inserted (No. of copies: 3) in Warehouse with id 3.

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 7
Search Book
-----
Give book isbn
<
```



```
eclipse-workspace - 2017-18_ergasia3_domes/src/List.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access

<terminated> SystemMenu [Java Application] C:\Program Files\Java\jre1.8.0_161\bin\javaw.exe (Jan 22, 2018, 2

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit

> 7
Search Book

Give book isbn
> 123
Search results - Book ISBN: 123
-----
The book is available at
Warehouse 1 located in gfdsgd, copies: 3
Warehouse 3 located in athens, copies: 3

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit

> 8
Print Warehouses and Books
-----
Warehouse 1 located in gfdsgd:
Book 12, copies: 3
Book 21, copies: 3
Book 123, copies: 5
Warehouse 3 located in athens:
Book 123, copies: 3

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit

> 0
```

Παρατίθενται **screenshots** εκτέλεσης του προγράμματός μας,
με τα δεδομένα του παραδείγματος που φαίνεται στο μέρος Γ της εκφώνησης.
(φαίνονται και οι δυσλειτουργίες στην ταξινομημένη λίστα)

1. Εισαγωγή αποθηκών



```
eclipse-workspace - 2017-18_ergasia3_domes/src/SystemMenu.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access

Console
SystemMenu [Java Application] C:\Program Files\Java\jre1.8.0_161\bin\javaw.exe (Jan 22, 2018, 1:42:12 PM)

Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 1
Insert Warehouse
-----
Give warehouse id and city
> 3 Thessaloniki

Warehouse with id 3, located in Thessaloniki, was inserted.

Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 1
Insert Warehouse
-----
Give warehouse id and city
> 13 Iraklio

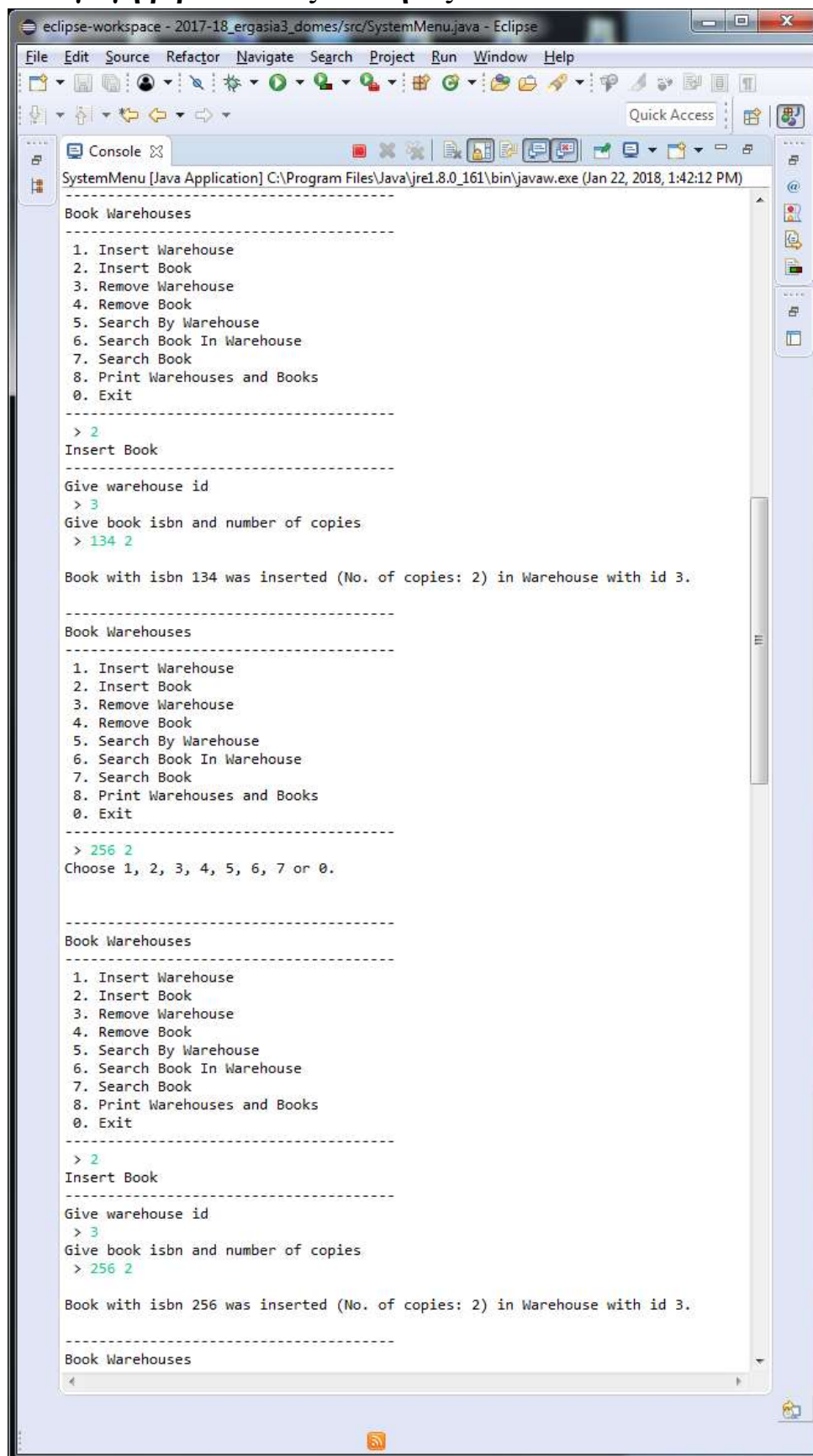
Warehouse with id 13, located in Iraklio, was inserted.

Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 1
Insert Warehouse
-----
Give warehouse id and city
> 33 Ithaki

Warehouse with id 33, located in Ithaki, was inserted.

Book Warehouses
-----
```

2. Εισαγωγή βιβλίων στις αποθήκες



```
eclipse-workspace - 2017-18_ergasia3_domes/src/SystemMenu.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
-----
Console
SystemMenu [Java Application] C:\Program Files\Java\jre1.8.0_161\bin\javaw.exe (Jan 22, 2018, 1:42:12 PM)

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 2
Insert Book
-----
Give warehouse id
> 3
Give book isbn and number of copies
> 134 2

Book with isbn 134 was inserted (No. of copies: 2) in Warehouse with id 3.

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 256 2
Choose 1, 2, 3, 4, 5, 6, 7 or 0.

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 2
Insert Book
-----
Give warehouse id
> 3
Give book isbn and number of copies
> 256 2

Book with isbn 256 was inserted (No. of copies: 2) in Warehouse with id 3.

-----
Book Warehouses
-----
```

```
eclipse-workspace - 2017-18_ergasia3_domes/src/SystemMenu.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access

Console [Java Application] C:\Program Files\Java\jre1.8.0_161\bin\javaw.exe (Jan 22, 2018, 1:42:12 PM)

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 2
Insert Book
-----
Give warehouse id
> 13
Give book isbn and number of copies
> 134 1

Book with isbn 134 was inserted (No. of copies: 1) in Warehouse with id 13.

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 2
Insert Book
-----
Give warehouse id
> 13
Give book isbn and number of copies
> 349 3

Book with isbn 349 was inserted (No. of copies: 3) in Warehouse with id 13.

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 2
Insert Book
-----
Give warehouse id
> 33
Give book isbn and number of copies
```



```
eclipse-workspace - 2017-18_ergasia3_domes/src/SystemMenu.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Console
SystemMenu [Java Application] C:\Program Files\Java\jre1.8.0_161\bin\javaw.exe (Jan 22, 2018, 1:42:12 PM)

2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit

> 2
Insert Book
-----
Give warehouse id
> 33
Give book isbn and number of copies
> 17 1

Book with isbn 17 was inserted (No. of copies: 1) in Warehouse with id 33.

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit

> 2
Insert Book
-----
Give warehouse id
> 33
Give book isbn and number of copies
> 31 1

Book with isbn 31 was inserted (No. of copies: 1) in Warehouse with id 33.

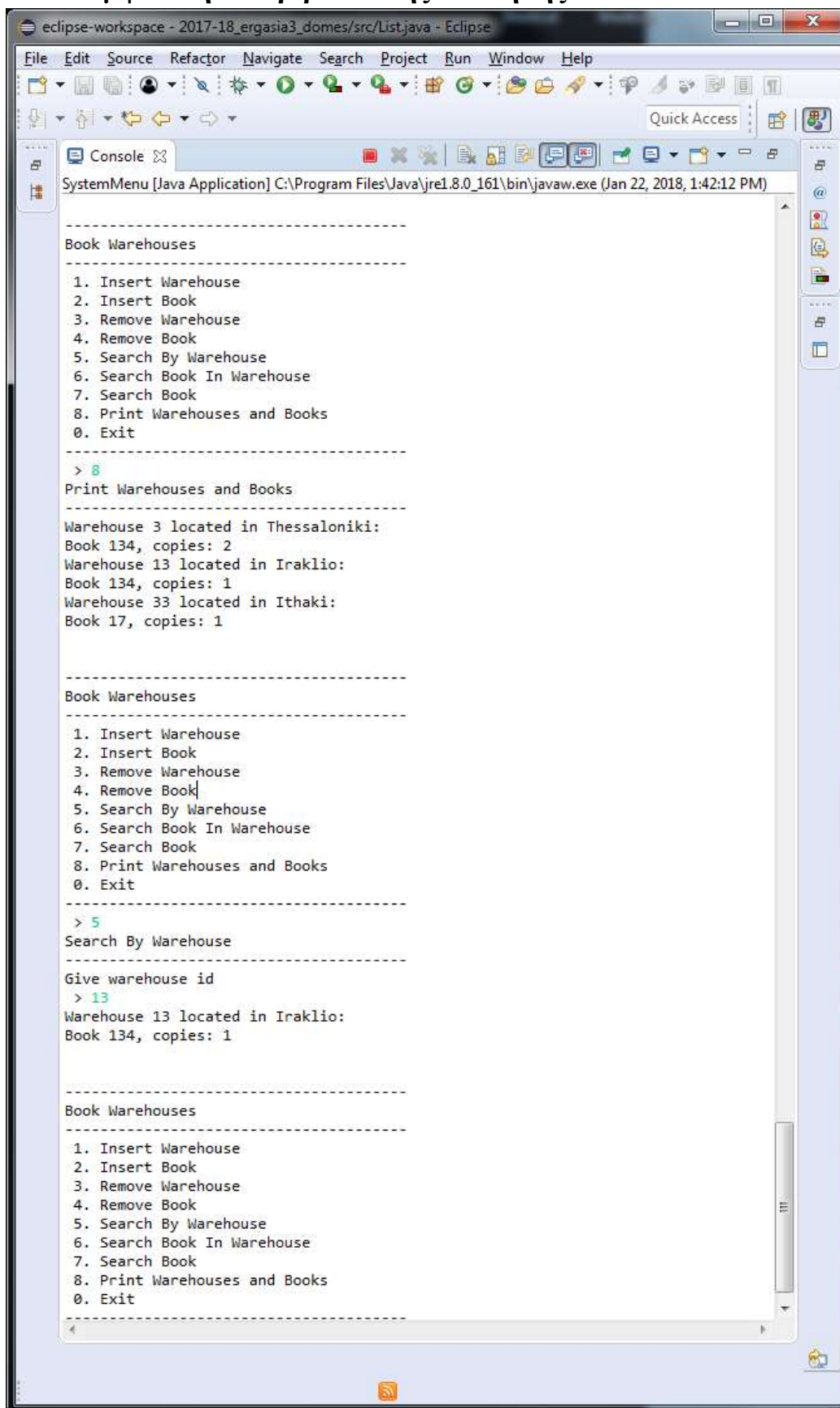
-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit

> 2
Insert Book
-----
Give warehouse id
> 33
Give book isbn and number of copies
> 349 1

Book with isbn 349 was inserted (No. of copies: 1) in Warehouse with id 33.
```


3. Εμφάνιση των περιεχομένων μέχρι στιγμής

4. Εμφάνιση των βιβλίων της αποθήκης 13



```
eclipse-workspace - 2017-18_ergasia3_domes/src/List.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
-----
SystemMenu [Java Application] C:\Program Files\Java\jre1.8.0_161\bin\javaw.exe (Jan 22, 2018, 1:42:12 PM)

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit

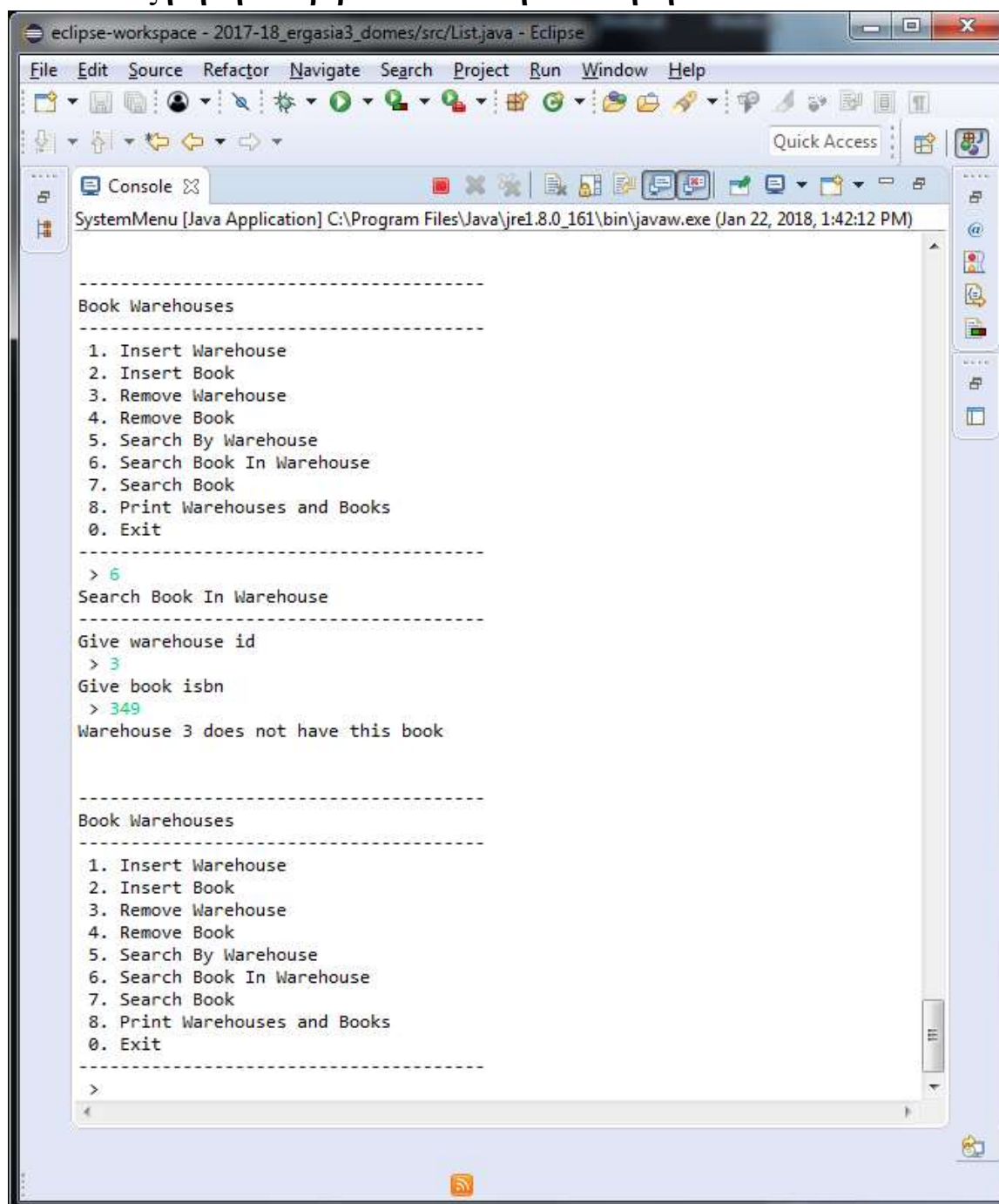
> 8
Print Warehouses and Books
-----
Warehouse 3 located in Thessaloniki:
Book 134, copies: 2
Warehouse 13 located in Iraklio:
Book 134, copies: 1
Warehouse 33 located in Ithaki:
Book 17, copies: 1

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit

> 5
Search By Warehouse
-----
Give warehouse id
> 13
Warehouse 13 located in Iraklio:
Book 134, copies: 1

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
```

5. Αναζήτηση του βιβλίου 349 στην αποθήκη 3



```
eclipse-workspace - 2017-18_ergasia3_domes/src/List.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Console
SystemMenu [Java Application] C:\Program Files\Java\jre1.8.0_161\bin\javaw.exe (Jan 22, 2018, 1:42:12 PM)

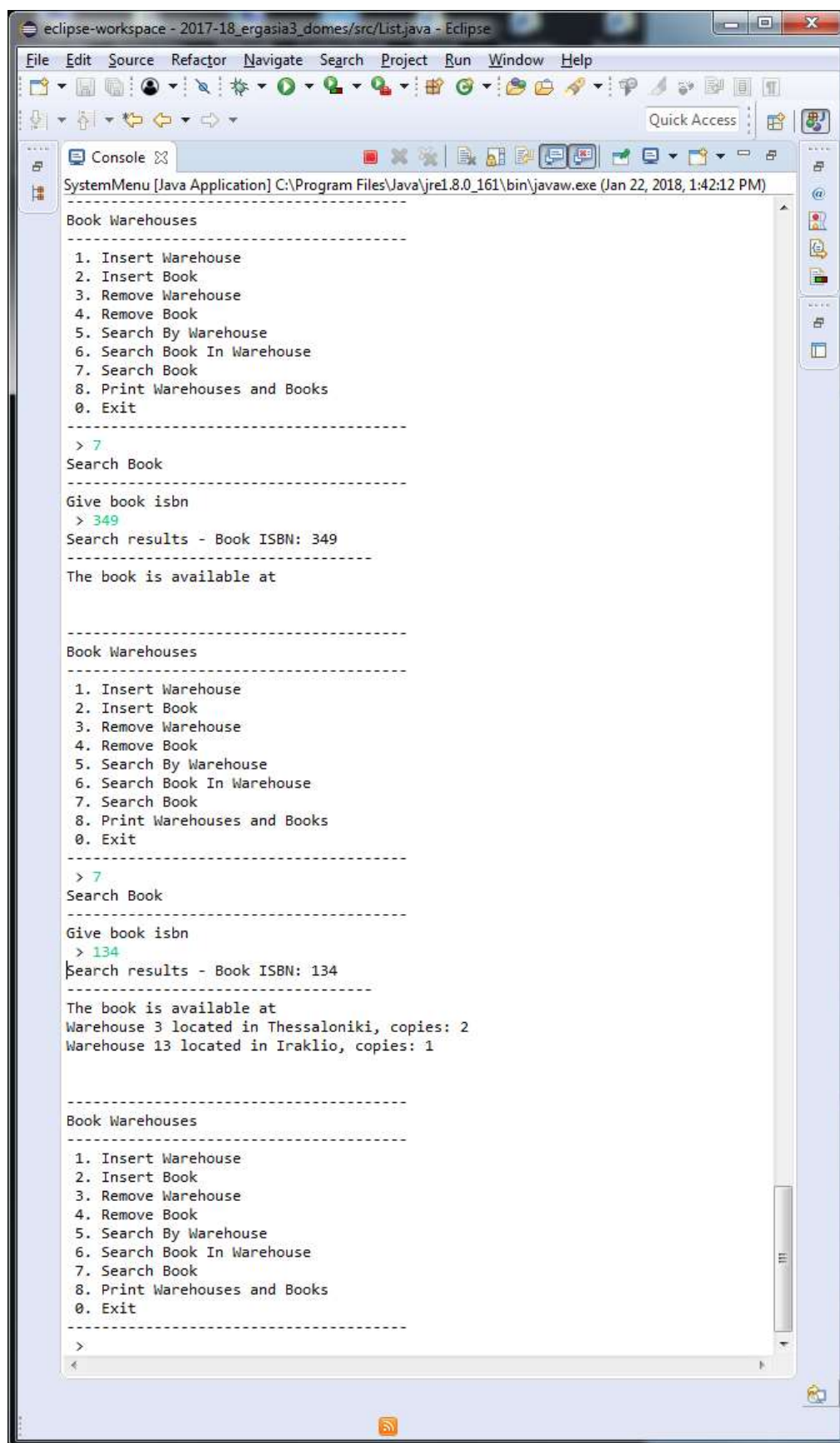
-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----

> 6
Search Book In Warehouse
-----
Give warehouse id
> 3
Give book isbn
> 349
Warehouse 3 does not have this book

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----

>
```

6. Αναζήτηση του βιβλίου 349 και του 134 σε όλες τις αποθήκες του Εκδοτικού Οίκου



```
eclipse-workspace - 2017-18_ergasia3_domes/src/List.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access

Console [Java Application] C:\Program Files\Java\jre1.8.0_161\bin\javaw.exe (Jan 22, 2018, 1:42:12 PM)

Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit

> 7
Search Book
-----
Give book isbn
> 349
Search results - Book ISBN: 349
-----
The book is available at

Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit

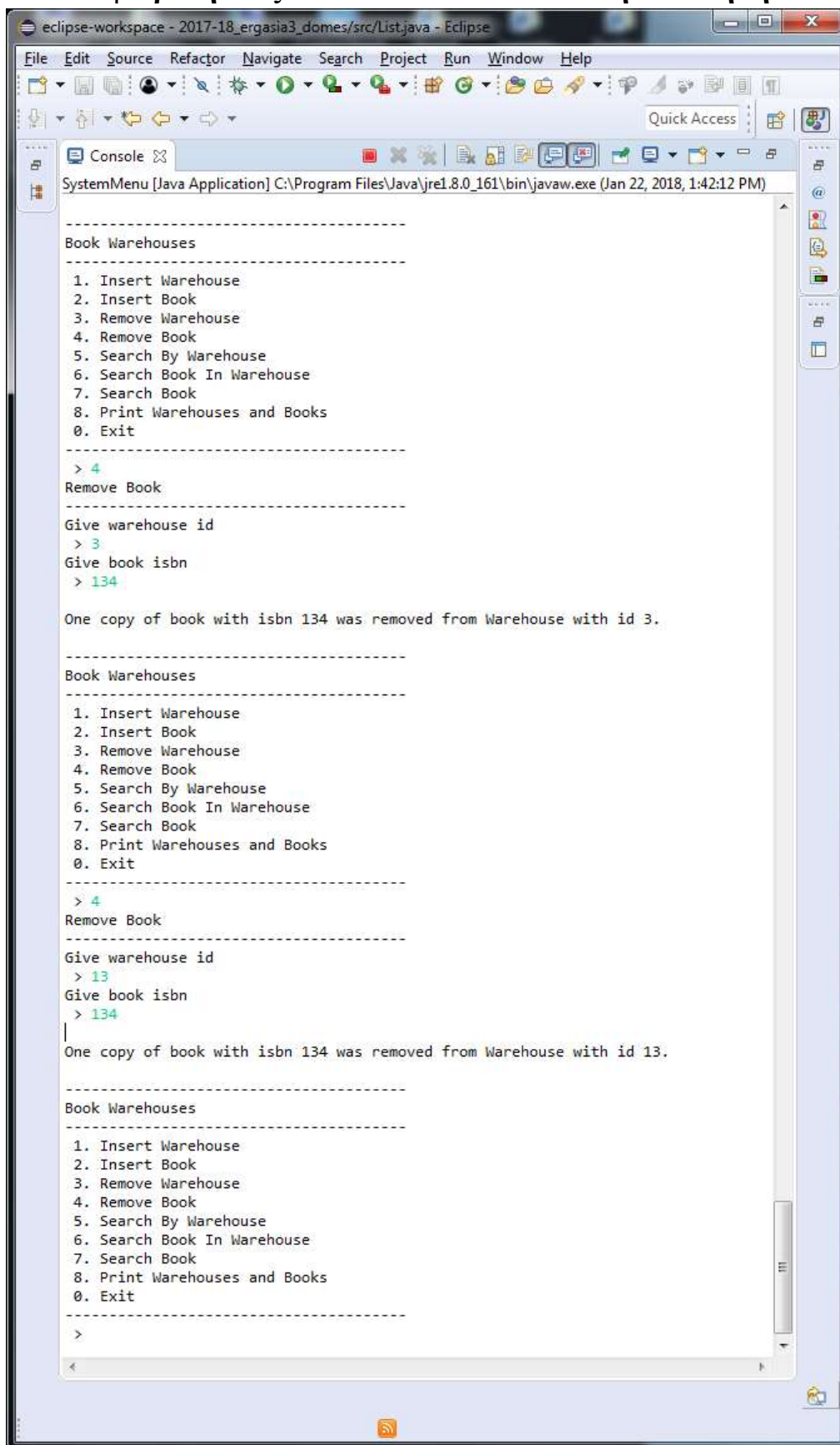
> 7
Search Book
-----
Give book isbn
> 134
Search results - Book ISBN: 134
-----
The book is available at
Warehouse 3 located in Thessaloniki, copies: 2
Warehouse 13 located in Iraklio, copies: 1

Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit

>
<
```

7. Αφαίρεση ενός αντιτύπου του 134 από την αποθήκη 3

8. Αφαίρεση ενός αντιτύπου του 134 από την αποθήκη 13



```
eclipse-workspace - 2017-18_ergasia3_domes/src/List.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
-----
SystemMenu [Java Application] C:\Program Files\Java\jre1.8.0_161\bin\javaw.exe (Jan 22, 2018, 1:42:12 PM)

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit

> 4
Remove Book
-----
Give warehouse id
> 3
Give book isbn
> 134

One copy of book with isbn 134 was removed from Warehouse with id 3.

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit

> 4
Remove Book
-----
Give warehouse id
> 13
Give book isbn
> 134

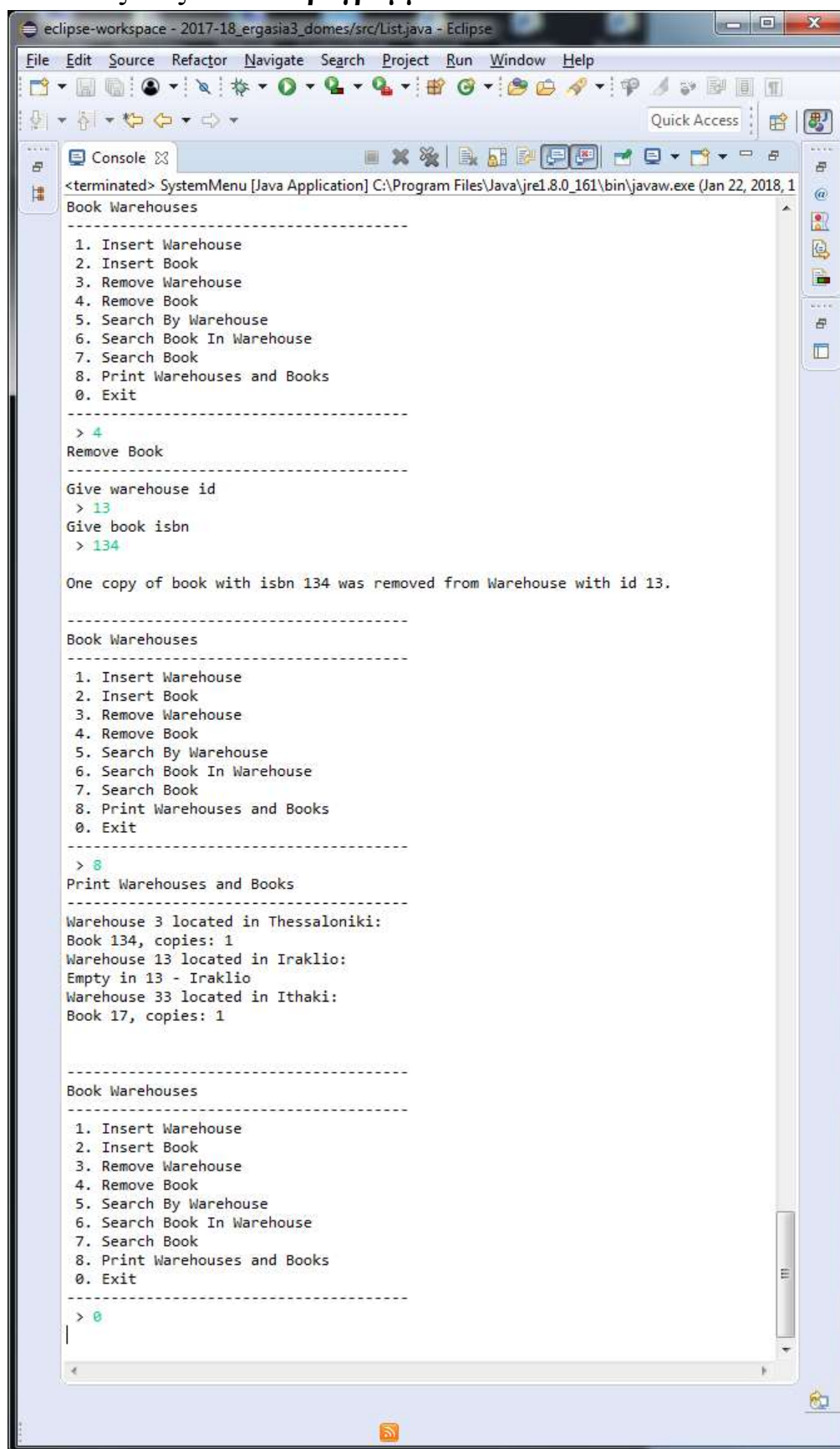
One copy of book with isbn 134 was removed from Warehouse with id 13.

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit

>
```


9. Εμφάνιση τελικών περιεχομένων όλων των αποθηκών

10. Έξοδος από το πρόγραμμα



```
eclipse-workspace - 2017-18_ergasia3_domes/src/List.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access

<terminated> SystemMenu [Java Application] C:\Program Files\Java\jre1.8.0_161\bin\javaw.exe (Jan 22, 2018, 1
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 4
Remove Book
-----
Give warehouse id
> 13
Give book isbn
> 134

One copy of book with isbn 134 was removed from Warehouse with id 13.

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 8
Print Warehouses and Books
-----
Warehouse 3 located in Thessaloniki:
Book 134, copies: 1
Warehouse 13 located in Iraklio:
Empty in 13 - Iraklio
Warehouse 33 located in Ithaki:
Book 17, copies: 1

-----
Book Warehouses
-----
1. Insert Warehouse
2. Insert Book
3. Remove Warehouse
4. Remove Book
5. Search By Warehouse
6. Search Book In Warehouse
7. Search Book
8. Print Warehouses and Books
0. Exit
-----
> 0
```