ArrayList Library Screenshots

0-0

```
[jalan@thinkpad arraylist-library]$  /usr/bin/env /usr/lib/jvm/java-19-openjdk/bin/java --enable-preview -XX:+ShowCodeDetailsInExceptio
nMessages -cp /home/jalan/.config/Code/User/workspaceStorage/967c764b7c4e540e5e31afa14e1e09d1/redhat.java/jdt_ws/arraylist-library_2a1d
898/bin Main
Title: Book1 | Subject: Programming | Year: 1986 | Pages: 710 | Rating: 4.4
Title: Book2 | Subject: Programming | Year: 2016 | Pages: 651 | Rating: 8.6
Title: Book3 | Subject: Programming | Year: 1994 | Pages: 654 | Rating: 0.4
Title: Book4 | Subject: Programming | Year: 2014 | Pages: 398 | Rating: 2.0
Title: Book5 | Subject: Data Structures | Year: 2018 | Pages: 509 | Rating: 2.7
Title: Book6 | Subject: Data Structures | Year: 2015 | Pages: 377 | Rating: 8.1
Title: Book7 | Subject: Data Structures | Year: 1997 | Pages: 471 | Rating: 0.3
Title: Book8 | Subject: Data Structures | Year: 2001 | Pages: 98 | Rating: 3.8
Title: Book9 | Subject: Algorithms | Year: 1984 | Pages: 92 | Rating: 6.6
Title: Book10 | Subject: Algorithms | Year: 2011 | Pages: 858 | Rating: 6.4
Title: Book11 | Subject: Algorithms | Year: 2008 | Pages: 529 | Rating: 8.4
Title: Book12 | Subject: Algorithms | Year: 1992 | Pages: 299 | Rating: 9.7
Title: Book13 | Subject: Operating Systems | Year: 2002 | Pages: 758 | Rating: 10.0
Title: Book14 | Subject: Operating Systems | Year: 2010 | Pages: 636 | Rating: 8.1
Title: Book15 | Subject: Operating Systems | Year: 1982 | Pages: 520 | Rating: 1.7
Title: Book16 | Subject: Operating Systems | Year: 2013 | Pages: 850 | Rating: 2.3
Title: Book17 | Subject: Gaming | Year: 2003 | Pages: 143 | Rating: 8.9
Title: Book18 | Subject: Gaming | Year: 2009 | Pages: 917 | Rating: 4.5
Title: Book19 | Subject: Gaming | Year: 1998 | Pages: 906 | Rating: 3.2
Title: Book20 | Subject: Gaming | Year: 2012 | Pages: 191 | Rating: 9.4

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: █
```

0-1

```
Title: Book16 | Subject: Operating Systems | Year: 2013 | Pages: 850 | Rating: 2.3
Title: Book17 | Subject: Gaming | Year: 2003 | Pages: 143 | Rating: 8.9
Title: Book18 | Subject: Gaming | Year: 2009 | Pages: 917 | Rating: 4.5
Title: Book19 | Subject: Gaming | Year: 1998 | Pages: 906 | Rating: 3.2
Title: Book20 | Subject: Gaming | Year: 2012 | Pages: 191 | Rating: 9.4

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 1
Title: Book1 | Subject: Programming | Year: 1986 | Pages: 710 | Rating: 4.4
Title: Book2 | Subject: Programming | Year: 2016 | Pages: 651 | Rating: 8.6
Title: Book3 | Subject: Programming | Year: 1994 | Pages: 654 | Rating: 0.4
Title: Book4 | Subject: Programming | Year: 2014 | Pages: 398 | Rating: 2.0
Title: Book5 | Subject: Data Structures | Year: 2018 | Pages: 509 | Rating: 2.7
Title: Book6 | Subject: Data Structures | Year: 2015 | Pages: 377 | Rating: 8.1
Title: Book7 | Subject: Data Structures | Year: 1997 | Pages: 471 | Rating: 0.3
Title: Book8 | Subject: Data Structures | Year: 2001 | Pages: 98 | Rating: 3.8
Title: Book9 | Subject: Algorithms | Year: 1984 | Pages: 92 | Rating: 6.6
Title: Book10 | Subject: Algorithms | Year: 2011 | Pages: 858 | Rating: 6.4
Title: Book11 | Subject: Algorithms | Year: 2008 | Pages: 529 | Rating: 8.4
Title: Book12 | Subject: Algorithms | Year: 1992 | Pages: 299 | Rating: 9.7
Title: Book13 | Subject: Operating Systems | Year: 2002 | Pages: 758 | Rating: 10.0
Title: Book14 | Subject: Operating Systems | Year: 2010 | Pages: 636 | Rating: 8.1
Title: Book15 | Subject: Operating Systems | Year: 1982 | Pages: 520 | Rating: 1.7
Title: Book16 | Subject: Operating Systems | Year: 2013 | Pages: 850 | Rating: 2.3
Title: Book17 | Subject: Gaming | Year: 2003 | Pages: 143 | Rating: 8.9
Title: Book18 | Subject: Gaming | Year: 2009 | Pages: 917 | Rating: 4.5
Title: Book19 | Subject: Gaming | Year: 1998 | Pages: 906 | Rating: 3.2
Title: Book20 | Subject: Gaming | Year: 2012 | Pages: 191 | Rating: 9.4

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option:
```

0-2

```
Title: Book16 | Subject: Operating Systems | Year: 2013 | Pages: 850 | Rating: 2.3
Title: Book17 | Subject: Gaming | Year: 2003 | Pages: 143 | Rating: 8.9
Title: Book18 | Subject: Gaming | Year: 2009 | Pages: 917 | Rating: 4.5
Title: Book19 | Subject: Gaming | Year: 1998 | Pages: 906 | Rating: 3.2
Title: Book20 | Subject: Gaming | Year: 2012 | Pages: 191 | Rating: 9.4

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 2
Title: Book15 | Subject: Operating Systems | Year: 1982 | Pages: 520 | Rating: 1.7
Title: Book9 | Subject: Algorithms | Year: 1984 | Pages: 92 | Rating: 6.6
Title: Book1 | Subject: Programming | Year: 1986 | Pages: 710 | Rating: 4.4
Title: Book12 | Subject: Algorithms | Year: 1992 | Pages: 299 | Rating: 9.7
Title: Book3 | Subject: Programming | Year: 1994 | Pages: 654 | Rating: 0.4
Title: Book7 | Subject: Data Structures | Year: 1997 | Pages: 471 | Rating: 0.3
Title: Book19 | Subject: Gaming | Year: 1998 | Pages: 906 | Rating: 3.2
Title: Book8 | Subject: Data Structures | Year: 2001 | Pages: 98 | Rating: 3.8
Title: Book13 | Subject: Operating Systems | Year: 2002 | Pages: 758 | Rating: 10.0
Title: Book17 | Subject: Gaming | Year: 2003 | Pages: 143 | Rating: 8.9
Title: Book11 | Subject: Algorithms | Year: 2008 | Pages: 529 | Rating: 8.4
Title: Book18 | Subject: Gaming | Year: 2009 | Pages: 917 | Rating: 4.5
Title: Book14 | Subject: Operating Systems | Year: 2010 | Pages: 636 | Rating: 8.1
Title: Book10 | Subject: Algorithms | Year: 2011 | Pages: 858 | Rating: 6.4
Title: Book20 | Subject: Gaming | Year: 2012 | Pages: 191 | Rating: 9.4
Title: Book16 | Subject: Operating Systems | Year: 2013 | Pages: 850 | Rating: 2.3
Title: Book4 | Subject: Programming | Year: 2014 | Pages: 398 | Rating: 2.0
Title: Book6 | Subject: Data Structures | Year: 2015 | Pages: 377 | Rating: 8.1
Title: Book2 | Subject: Programming | Year: 2016 | Pages: 651 | Rating: 8.6
Title: Book5 | Subject: Data Structures | Year: 2018 | Pages: 509 | Rating: 2.7

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option:
```

0-3

```
Title: Book16 | Subject: Operating Systems | Year: 2013 | Pages: 850 | Rating: 2.3
Title: Book4 | Subject: Programming | Year: 2014 | Pages: 398 | Rating: 2.0
Title: Book6 | Subject: Data Structures | Year: 2015 | Pages: 377 | Rating: 8.1
Title: Book2 | Subject: Programming | Year: 2016 | Pages: 651 | Rating: 8.6
Title: Book5 | Subject: Data Structures | Year: 2018 | Pages: 509 | Rating: 2.7

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 3
Title: Book9 | Subject: Algorithms | Year: 1984 | Pages: 92 | Rating: 6.6
Title: Book8 | Subject: Data Structures | Year: 2001 | Pages: 98 | Rating: 3.8
Title: Book17 | Subject: Gaming | Year: 2003 | Pages: 143 | Rating: 8.9
Title: Book20 | Subject: Gaming | Year: 2012 | Pages: 191 | Rating: 9.4
Title: Book12 | Subject: Algorithms | Year: 1992 | Pages: 299 | Rating: 9.7
Title: Book6 | Subject: Data Structures | Year: 2015 | Pages: 377 | Rating: 8.1
Title: Book4 | Subject: Programming | Year: 2014 | Pages: 398 | Rating: 2.0
Title: Book7 | Subject: Data Structures | Year: 1997 | Pages: 471 | Rating: 0.3
Title: Book5 | Subject: Data Structures | Year: 2018 | Pages: 509 | Rating: 2.7
Title: Book15 | Subject: Operating Systems | Year: 1982 | Pages: 520 | Rating: 1.7
Title: Book11 | Subject: Algorithms | Year: 2008 | Pages: 529 | Rating: 8.4
Title: Book14 | Subject: Operating Systems | Year: 2010 | Pages: 636 | Rating: 8.1
Title: Book2 | Subject: Programming | Year: 2016 | Pages: 651 | Rating: 8.6
Title: Book3 | Subject: Programming | Year: 1994 | Pages: 654 | Rating: 0.4
Title: Book1 | Subject: Programming | Year: 1986 | Pages: 710 | Rating: 4.4
Title: Book13 | Subject: Operating Systems | Year: 2002 | Pages: 758 | Rating: 10.0
Title: Book16 | Subject: Operating Systems | Year: 2013 | Pages: 850 | Rating: 2.3
Title: Book10 | Subject: Algorithms | Year: 2011 | Pages: 858 | Rating: 6.4
Title: Book19 | Subject: Gaming | Year: 1998 | Pages: 906 | Rating: 3.2
Title: Book18 | Subject: Gaming | Year: 2009 | Pages: 917 | Rating: 4.5

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option:
```

0-4

```
Title: Book13 | Subject: Operating Systems | Year: 2002 | Pages: 758 | Rating: 10.0
Title: Book16 | Subject: Operating Systems | Year: 2013 | Pages: 850 | Rating: 2.3
Title: Book10 | Subject: Algorithms | Year: 2011 | Pages: 858 | Rating: 6.4
Title: Book19 | Subject: Gaming | Year: 1998 | Pages: 906 | Rating: 3.2
Title: Book18 | Subject: Gaming | Year: 2009 | Pages: 917 | Rating: 4.5

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 4
Title: Book13 | Subject: Operating Systems | Year: 2002 | Pages: 758 | Rating: 10.0
Title: Book12 | Subject: Algorithms | Year: 1992 | Pages: 299 | Rating: 9.7
Title: Book20 | Subject: Gaming | Year: 2012 | Pages: 191 | Rating: 9.4
Title: Book17 | Subject: Gaming | Year: 2003 | Pages: 143 | Rating: 8.9
Title: Book2 | Subject: Programming | Year: 2016 | Pages: 651 | Rating: 8.6
Title: Book11 | Subject: Algorithms | Year: 2008 | Pages: 529 | Rating: 8.4
Title: Book6 | Subject: Data Structures | Year: 2015 | Pages: 377 | Rating: 8.1
Title: Book14 | Subject: Operating Systems | Year: 2010 | Pages: 636 | Rating: 8.1
Title: Book9 | Subject: Algorithms | Year: 1984 | Pages: 92 | Rating: 6.6
Title: Book10 | Subject: Algorithms | Year: 2011 | Pages: 858 | Rating: 6.4
Title: Book18 | Subject: Gaming | Year: 2009 | Pages: 917 | Rating: 4.5
Title: Book1 | Subject: Programming | Year: 1986 | Pages: 710 | Rating: 4.4
Title: Book8 | Subject: Data Structures | Year: 2001 | Pages: 98 | Rating: 3.8
Title: Book19 | Subject: Gaming | Year: 1998 | Pages: 906 | Rating: 3.2
Title: Book5 | Subject: Data Structures | Year: 2018 | Pages: 509 | Rating: 2.7
Title: Book16 | Subject: Operating Systems | Year: 2013 | Pages: 850 | Rating: 2.3
Title: Book4 | Subject: Programming | Year: 2014 | Pages: 398 | Rating: 2.0
Title: Book15 | Subject: Operating Systems | Year: 1982 | Pages: 520 | Rating: 1.7
Title: Book3 | Subject: Programming | Year: 1994 | Pages: 654 | Rating: 0.4
Title: Book7 | Subject: Data Structures | Year: 1997 | Pages: 471 | Rating: 0.3

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option:
```

0-5

```
Title: Book12 | Subject: Algorithms | Year: 1992 | Pages: 299 | Rating: 9.7
Title: Book20 | Subject: Gaming | Year: 2012 | Pages: 191 | Rating: 9.4
Title: Book17 | Subject: Gaming | Year: 2003 | Pages: 143 | Rating: 8.9
Title: Book2 | Subject: Programming | Year: 2016 | Pages: 651 | Rating: 8.6
Title: Book11 | Subject: Algorithms | Year: 2008 | Pages: 529 | Rating: 8.4
Title: Book6 | Subject: Data Structures | Year: 2015 | Pages: 377 | Rating: 8.1
Title: Book14 | Subject: Operating Systems | Year: 2010 | Pages: 636 | Rating: 8.1
Title: Book9 | Subject: Algorithms | Year: 1984 | Pages: 92 | Rating: 6.6
Title: Book10 | Subject: Algorithms | Year: 2011 | Pages: 858 | Rating: 6.4
Title: Book18 | Subject: Gaming | Year: 2009 | Pages: 917 | Rating: 4.5
Title: Book1 | Subject: Programming | Year: 1986 | Pages: 710 | Rating: 4.4
Title: Book8 | Subject: Data Structures | Year: 2001 | Pages: 98 | Rating: 3.8
Title: Book19 | Subject: Gaming | Year: 1998 | Pages: 906 | Rating: 3.2
Title: Book5 | Subject: Data Structures | Year: 2018 | Pages: 509 | Rating: 2.7
Title: Book16 | Subject: Operating Systems | Year: 2013 | Pages: 850 | Rating: 2.3
Title: Book4 | Subject: Programming | Year: 2014 | Pages: 398 | Rating: 2.0
Title: Book15 | Subject: Operating Systems | Year: 1982 | Pages: 520 | Rating: 1.7
Title: Book3 | Subject: Programming | Year: 1994 | Pages: 654 | Rating: 0.4
Title: Book7 | Subject: Data Structures | Year: 1997 | Pages: 471 | Rating: 0.3

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 5
Enter subject: data structures
4 books found with subject data structures:
Title: Book6 | Subject: Data Structures | Year: 2015 | Pages: 377 | Rating: 8.1
Title: Book8 | Subject: Data Structures | Year: 2001 | Pages: 98 | Rating: 3.8
Title: Book5 | Subject: Data Structures | Year: 2018 | Pages: 509 | Rating: 2.7
Title: Book7 | Subject: Data Structures | Year: 1997 | Pages: 471 | Rating: 0.3

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option:
```

0-6

```
Title: Book5 | Subject: Data Structures | Year: 2018 | Pages: 509 | Rating: 2.7
Title: Book16 | Subject: Operating Systems | Year: 2013 | Pages: 850 | Rating: 2.3
Title: Book4 | Subject: Programming | Year: 2014 | Pages: 398 | Rating: 2.0
Title: Book15 | Subject: Operating Systems | Year: 1982 | Pages: 520 | Rating: 1.7
Title: Book3 | Subject: Programming | Year: 1994 | Pages: 654 | Rating: 0.4
Title: Book7 | Subject: Data Structures | Year: 1997 | Pages: 471 | Rating: 0.3

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 5
Enter subject: data structures
4 books found with subject data structures:
Title: Book6 | Subject: Data Structures | Year: 2015 | Pages: 377 | Rating: 8.1
Title: Book8 | Subject: Data Structures | Year: 2001 | Pages: 98 | Rating: 3.8
Title: Book5 | Subject: Data Structures | Year: 2018 | Pages: 509 | Rating: 2.7
Title: Book7 | Subject: Data Structures | Year: 1997 | Pages: 471 | Rating: 0.3

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 6
Enter title: book12
Title: Book12 | Subject: Algorithms | Year: 1992 | Pages: 299 | Rating: 9.7

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option:
```

0-7

```
4 books found with subject data structures:
Title: Book6 | Subject: Data Structures | Year: 2015 | Pages: 377 | Rating: 8.1
Title: Book8 | Subject: Data Structures | Year: 2001 | Pages: 98 | Rating: 3.8
Title: Book5 | Subject: Data Structures | Year: 2018 | Pages: 509 | Rating: 2.7
Title: Book7 | Subject: Data Structures | Year: 1997 | Pages: 471 | Rating: 0.3

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 6
Enter title: book12
Title: Book12 | Subject: Algorithms | Year: 1992 | Pages: 299 | Rating: 9.7

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 7
Enter title: Design Patterns
Enter subject: OOP
Enter year: 1994
Enter pages: 395
Enter rating (double): 10
not enough space, resizing ArrayList
Book added: Title: Design Patterns | Subject: OOP | Year: 1994 | Pages: 395 | Rating: 10.0

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option:
```

0-7-1

```
Enter pages: 395
Enter rating (double): 10
not enough space, resizing ArrayList
Book added: Title: Design Patterns | Subject: OOP | Year: 1994 | Pages: 395 | Rating: 10.0

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 1
Title: Book13 | Subject: Operating Systems | Year: 2002 | Pages: 758 | Rating: 10.0
Title: Book12 | Subject: Algorithms | Year: 1992 | Pages: 299 | Rating: 9.7
Title: Book20 | Subject: Gaming | Year: 2012 | Pages: 191 | Rating: 9.4
Title: Book17 | Subject: Gaming | Year: 2003 | Pages: 143 | Rating: 8.9
Title: Book2 | Subject: Programming | Year: 2016 | Pages: 651 | Rating: 8.6
Title: Book11 | Subject: Algorithms | Year: 2008 | Pages: 529 | Rating: 8.4
Title: Book6 | Subject: Data Structures | Year: 2015 | Pages: 377 | Rating: 8.1
Title: Book14 | Subject: Operating Systems | Year: 2010 | Pages: 636 | Rating: 8.1
Title: Book9 | Subject: Algorithms | Year: 1984 | Pages: 92 | Rating: 6.6
Title: Book10 | Subject: Algorithms | Year: 2011 | Pages: 858 | Rating: 6.4
Title: Book18 | Subject: Gaming | Year: 2009 | Pages: 917 | Rating: 4.5
Title: Book1 | Subject: Programming | Year: 1986 | Pages: 710 | Rating: 4.4
Title: Book8 | Subject: Data Structures | Year: 2001 | Pages: 98 | Rating: 3.8
Title: Book19 | Subject: Gaming | Year: 1998 | Pages: 906 | Rating: 3.2
Title: Book5 | Subject: Data Structures | Year: 2018 | Pages: 509 | Rating: 2.7
Title: Book16 | Subject: Operating Systems | Year: 2013 | Pages: 850 | Rating: 2.3
Title: Book4 | Subject: Programming | Year: 2014 | Pages: 398 | Rating: 2.0
Title: Book15 | Subject: Operating Systems | Year: 1982 | Pages: 520 | Rating: 1.7
Title: Book3 | Subject: Programming | Year: 1994 | Pages: 654 | Rating: 0.4
Title: Book7 | Subject: Data Structures | Year: 1997 | Pages: 471 | Rating: 0.3
Title: Design Patterns | Subject: OOP | Year: 1994 | Pages: 395 | Rating: 10.0

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option:
```

0-8

```
not enough space, resizing ArrayList
Book added: Title: Design Patterns | Subject: OOP | Year: 1994 | Pages: 395 | Rating: 10.0

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 1
Title: Book13 | Subject: Operating Systems | Year: 2002 | Pages: 758 | Rating: 10.0
Title: Book12 | Subject: Algorithms | Year: 1992 | Pages: 299 | Rating: 9.7
Title: Book20 | Subject: Gaming | Year: 2012 | Pages: 191 | Rating: 9.4
Title: Book17 | Subject: Gaming | Year: 2003 | Pages: 143 | Rating: 8.9
Title: Book2 | Subject: Programming | Year: 2016 | Pages: 651 | Rating: 8.6
Title: Book11 | Subject: Algorithms | Year: 2008 | Pages: 529 | Rating: 8.4
Title: Book6 | Subject: Data Structures | Year: 2015 | Pages: 377 | Rating: 8.1
Title: Book14 | Subject: Operating Systems | Year: 2010 | Pages: 636 | Rating: 8.1
Title: Book9 | Subject: Algorithms | Year: 1984 | Pages: 92 | Rating: 6.6
Title: Book10 | Subject: Algorithms | Year: 2011 | Pages: 858 | Rating: 6.4
Title: Book18 | Subject: Gaming | Year: 2009 | Pages: 917 | Rating: 4.5
Title: Book1 | Subject: Programming | Year: 1986 | Pages: 710 | Rating: 4.4
Title: Book8 | Subject: Data Structures | Year: 2001 | Pages: 98 | Rating: 3.8
Title: Book19 | Subject: Gaming | Year: 1998 | Pages: 906 | Rating: 3.2
Title: Book5 | Subject: Data Structures | Year: 2018 | Pages: 509 | Rating: 2.7
Title: Book16 | Subject: Operating Systems | Year: 2013 | Pages: 850 | Rating: 2.3
Title: Book4 | Subject: Programming | Year: 2014 | Pages: 398 | Rating: 2.0
Title: Book15 | Subject: Operating Systems | Year: 1982 | Pages: 520 | Rating: 1.7
Title: Book3 | Subject: Programming | Year: 1994 | Pages: 654 | Rating: 0.4
Title: Book7 | Subject: Data Structures | Year: 1997 | Pages: 471 | Rating: 0.3
Title: Design Patterns | Subject: OOP | Year: 1994 | Pages: 395 | Rating: 10.0

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 8
Exit code received.
[jalan@thinkpad arraylist-library]$
```

1-0

```
[jalan@thinkpad arraylist-library]$  /usr/bin/env /usr/lib/jvm/java-19-openjdk/bin/java --enable-preview -XX:+ShowCodeDetailsInExceptio
nMessages -cp /home/jalan/.config/Code/User/workspaceStorage/967c764b7c4e540e5e31afa14e1e09d1/redhat.java/jdt_ws/arraylist-library_2a1d
898/bin Main
Title: Book1  | Subject: Programming | Year: 2003 | Pages: 429 | Rating: 1.9
Title: Book2  | Subject: Programming | Year: 2014 | Pages: 591 | Rating: 8.5
Title: Book3  | Subject: Programming | Year: 1990 | Pages: 533 | Rating: 8.3
Title: Book4  | Subject: Programming | Year: 2017 | Pages: 605 | Rating: 1.9
Title: Book5  | Subject: Data Structures | Year: 2004 | Pages: 768 | Rating: 5.4
Title: Book6  | Subject: Data Structures | Year: 1992 | Pages: 659 | Rating: 3.9
Title: Book7  | Subject: Data Structures | Year: 2002 | Pages: 373 | Rating: 8.1
Title: Book8  | Subject: Data Structures | Year: 2007 | Pages: 484 | Rating: 0.9
Title: Book9  | Subject: Algorithms | Year: 1989 | Pages: 163 | Rating: 6.5
Title: Book10 | Subject: Algorithms | Year: 2018 | Pages: 126 | Rating: 8.1
Title: Book11 | Subject: Algorithms | Year: 1996 | Pages: 115 | Rating: 0.9
Title: Book12 | Subject: Algorithms | Year: 1998 | Pages: 424 | Rating: 4.6
Title: Book13 | Subject: Operating Systems | Year: 1999 | Pages: 219 | Rating: 9.2
Title: Book14 | Subject: Operating Systems | Year: 1982 | Pages: 662 | Rating: 3.2
Title: Book15 | Subject: Operating Systems | Year: 1987 | Pages: 434 | Rating: 1.7
Title: Book16 | Subject: Operating Systems | Year: 1997 | Pages: 803 | Rating: 6.0
Title: Book17 | Subject: Gaming | Year: 1985 | Pages: 719 | Rating: 4.2
Title: Book18 | Subject: Gaming | Year: 1993 | Pages: 239 | Rating: 4.5
Title: Book19 | Subject: Gaming | Year: 1988 | Pages: 371 | Rating: 7.1
Title: Book20 | Subject: Gaming | Year: 2005 | Pages: 141 | Rating: 1.4

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: █
```

1-1

```
Title: Book16 | Subject: Operating Systems | Year: 1997 | Pages: 803 | Rating: 6.0
Title: Book17 | Subject: Gaming | Year: 1985 | Pages: 719 | Rating: 4.2
Title: Book18 | Subject: Gaming | Year: 1993 | Pages: 239 | Rating: 4.5
Title: Book19 | Subject: Gaming | Year: 1988 | Pages: 371 | Rating: 7.1
Title: Book20 | Subject: Gaming | Year: 2005 | Pages: 141 | Rating: 1.4

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 1
Title: Book1 | Subject: Programming | Year: 2003 | Pages: 429 | Rating: 1.9
Title: Book2 | Subject: Programming | Year: 2014 | Pages: 591 | Rating: 8.5
Title: Book3 | Subject: Programming | Year: 1990 | Pages: 533 | Rating: 8.3
Title: Book4 | Subject: Programming | Year: 2017 | Pages: 605 | Rating: 1.9
Title: Book5 | Subject: Data Structures | Year: 2004 | Pages: 768 | Rating: 5.4
Title: Book6 | Subject: Data Structures | Year: 1992 | Pages: 659 | Rating: 3.9
Title: Book7 | Subject: Data Structures | Year: 2002 | Pages: 373 | Rating: 8.1
Title: Book8 | Subject: Data Structures | Year: 2007 | Pages: 484 | Rating: 0.9
Title: Book9 | Subject: Algorithms | Year: 1989 | Pages: 163 | Rating: 6.5
Title: Book10 | Subject: Algorithms | Year: 2018 | Pages: 126 | Rating: 8.1
Title: Book11 | Subject: Algorithms | Year: 1996 | Pages: 115 | Rating: 0.9
Title: Book12 | Subject: Algorithms | Year: 1998 | Pages: 424 | Rating: 4.6
Title: Book13 | Subject: Operating Systems | Year: 1999 | Pages: 219 | Rating: 9.2
Title: Book14 | Subject: Operating Systems | Year: 1982 | Pages: 662 | Rating: 3.2
Title: Book15 | Subject: Operating Systems | Year: 1987 | Pages: 434 | Rating: 1.7
Title: Book16 | Subject: Operating Systems | Year: 1997 | Pages: 803 | Rating: 6.0
Title: Book17 | Subject: Gaming | Year: 1985 | Pages: 719 | Rating: 4.2
Title: Book18 | Subject: Gaming | Year: 1993 | Pages: 239 | Rating: 4.5
Title: Book19 | Subject: Gaming | Year: 1988 | Pages: 371 | Rating: 7.1
Title: Book20 | Subject: Gaming | Year: 2005 | Pages: 141 | Rating: 1.4

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option:
```

1-2

```
Title: Book16 | Subject: Operating Systems | Year: 1997 | Pages: 803 | Rating: 6.0
Title: Book17 | Subject: Gaming | Year: 1985 | Pages: 719 | Rating: 4.2
Title: Book18 | Subject: Gaming | Year: 1993 | Pages: 239 | Rating: 4.5
Title: Book19 | Subject: Gaming | Year: 1988 | Pages: 371 | Rating: 7.1
Title: Book20 | Subject: Gaming | Year: 2005 | Pages: 141 | Rating: 1.4

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 2
Title: Book14 | Subject: Operating Systems | Year: 1982 | Pages: 662 | Rating: 3.2
Title: Book17 | Subject: Gaming | Year: 1985 | Pages: 719 | Rating: 4.2
Title: Book15 | Subject: Operating Systems | Year: 1987 | Pages: 434 | Rating: 1.7
Title: Book19 | Subject: Gaming | Year: 1988 | Pages: 371 | Rating: 7.1
Title: Book9 | Subject: Algorithms | Year: 1989 | Pages: 163 | Rating: 6.5
Title: Book3 | Subject: Programming | Year: 1990 | Pages: 533 | Rating: 8.3
Title: Book6 | Subject: Data Structures | Year: 1992 | Pages: 659 | Rating: 3.9
Title: Book18 | Subject: Gaming | Year: 1993 | Pages: 239 | Rating: 4.5
Title: Book11 | Subject: Algorithms | Year: 1996 | Pages: 115 | Rating: 0.9
Title: Book16 | Subject: Operating Systems | Year: 1997 | Pages: 803 | Rating: 6.0
Title: Book12 | Subject: Algorithms | Year: 1998 | Pages: 424 | Rating: 4.6
Title: Book13 | Subject: Operating Systems | Year: 1999 | Pages: 219 | Rating: 9.2
Title: Book7 | Subject: Data Structures | Year: 2002 | Pages: 373 | Rating: 8.1
Title: Book1 | Subject: Programming | Year: 2003 | Pages: 429 | Rating: 1.9
Title: Book5 | Subject: Data Structures | Year: 2004 | Pages: 768 | Rating: 5.4
Title: Book20 | Subject: Gaming | Year: 2005 | Pages: 141 | Rating: 1.4
Title: Book8 | Subject: Data Structures | Year: 2007 | Pages: 484 | Rating: 0.9
Title: Book2 | Subject: Programming | Year: 2014 | Pages: 591 | Rating: 8.5
Title: Book4 | Subject: Programming | Year: 2017 | Pages: 605 | Rating: 1.9
Title: Book10 | Subject: Algorithms | Year: 2018 | Pages: 126 | Rating: 8.1

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option:
```

1-3

```
Title: Book20 | Subject: Gaming | Year: 2005 | Pages: 141 | Rating: 1.4
Title: Book8 | Subject: Data Structures | Year: 2007 | Pages: 484 | Rating: 0.9
Title: Book2 | Subject: Programming | Year: 2014 | Pages: 591 | Rating: 8.5
Title: Book4 | Subject: Programming | Year: 2017 | Pages: 605 | Rating: 1.9
Title: Book10 | Subject: Algorithms | Year: 2018 | Pages: 126 | Rating: 8.1

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 3
Title: Book11 | Subject: Algorithms | Year: 1996 | Pages: 115 | Rating: 0.9
Title: Book10 | Subject: Algorithms | Year: 2018 | Pages: 126 | Rating: 8.1
Title: Book20 | Subject: Gaming | Year: 2005 | Pages: 141 | Rating: 1.4
Title: Book9 | Subject: Algorithms | Year: 1989 | Pages: 163 | Rating: 6.5
Title: Book13 | Subject: Operating Systems | Year: 1999 | Pages: 219 | Rating: 9.2
Title: Book18 | Subject: Gaming | Year: 1993 | Pages: 239 | Rating: 4.5
Title: Book19 | Subject: Gaming | Year: 1988 | Pages: 371 | Rating: 7.1
Title: Book7 | Subject: Data Structures | Year: 2002 | Pages: 373 | Rating: 8.1
Title: Book12 | Subject: Algorithms | Year: 1998 | Pages: 424 | Rating: 4.6
Title: Book1 | Subject: Programming | Year: 2003 | Pages: 429 | Rating: 1.9
Title: Book15 | Subject: Operating Systems | Year: 1987 | Pages: 434 | Rating: 1.7
Title: Book8 | Subject: Data Structures | Year: 2007 | Pages: 484 | Rating: 0.9
Title: Book3 | Subject: Programming | Year: 1990 | Pages: 533 | Rating: 8.3
Title: Book2 | Subject: Programming | Year: 2014 | Pages: 591 | Rating: 8.5
Title: Book4 | Subject: Programming | Year: 2017 | Pages: 605 | Rating: 1.9
Title: Book6 | Subject: Data Structures | Year: 1992 | Pages: 659 | Rating: 3.9
Title: Book14 | Subject: Operating Systems | Year: 1982 | Pages: 662 | Rating: 3.2
Title: Book17 | Subject: Gaming | Year: 1985 | Pages: 719 | Rating: 4.2
Title: Book5 | Subject: Data Structures | Year: 2004 | Pages: 768 | Rating: 5.4
Title: Book16 | Subject: Operating Systems | Year: 1997 | Pages: 803 | Rating: 6.0

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option:
```

1-4

```
Title: Book6 | Subject: Data Structures | Year: 1992 | Pages: 659 | Rating: 3.9
Title: Book14 | Subject: Operating Systems | Year: 1982 | Pages: 662 | Rating: 3.2
Title: Book17 | Subject: Gaming | Year: 1985 | Pages: 719 | Rating: 4.2
Title: Book5 | Subject: Data Structures | Year: 2004 | Pages: 768 | Rating: 5.4
Title: Book16 | Subject: Operating Systems | Year: 1997 | Pages: 803 | Rating: 6.0

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 4
Title: Book13 | Subject: Operating Systems | Year: 1999 | Pages: 219 | Rating: 9.2
Title: Book2 | Subject: Programming | Year: 2014 | Pages: 591 | Rating: 8.5
Title: Book3 | Subject: Programming | Year: 1990 | Pages: 533 | Rating: 8.3
Title: Book10 | Subject: Algorithms | Year: 2018 | Pages: 126 | Rating: 8.1
Title: Book7 | Subject: Data Structures | Year: 2002 | Pages: 373 | Rating: 8.1
Title: Book19 | Subject: Gaming | Year: 1988 | Pages: 371 | Rating: 7.1
Title: Book9 | Subject: Algorithms | Year: 1989 | Pages: 163 | Rating: 6.5
Title: Book16 | Subject: Operating Systems | Year: 1997 | Pages: 803 | Rating: 6.0
Title: Book5 | Subject: Data Structures | Year: 2004 | Pages: 768 | Rating: 5.4
Title: Book12 | Subject: Algorithms | Year: 1998 | Pages: 424 | Rating: 4.6
Title: Book18 | Subject: Gaming | Year: 1993 | Pages: 239 | Rating: 4.5
Title: Book17 | Subject: Gaming | Year: 1985 | Pages: 719 | Rating: 4.2
Title: Book6 | Subject: Data Structures | Year: 1992 | Pages: 659 | Rating: 3.9
Title: Book14 | Subject: Operating Systems | Year: 1982 | Pages: 662 | Rating: 3.2
Title: Book1 | Subject: Programming | Year: 2003 | Pages: 429 | Rating: 1.9
Title: Book4 | Subject: Programming | Year: 2017 | Pages: 605 | Rating: 1.9
Title: Book15 | Subject: Operating Systems | Year: 1987 | Pages: 434 | Rating: 1.7
Title: Book20 | Subject: Gaming | Year: 2005 | Pages: 141 | Rating: 1.4
Title: Book11 | Subject: Algorithms | Year: 1996 | Pages: 115 | Rating: 0.9
Title: Book8 | Subject: Data Structures | Year: 2007 | Pages: 484 | Rating: 0.9

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option:
```

1-5

```
Title: Book1 | Subject: Programming | Year: 2003 | Pages: 429 | Rating: 1.9
Title: Book4 | Subject: Programming | Year: 2017 | Pages: 605 | Rating: 1.9
Title: Book15 | Subject: Operating Systems | Year: 1987 | Pages: 434 | Rating: 1.7
Title: Book20 | Subject: Gaming | Year: 2005 | Pages: 141 | Rating: 1.4
Title: Book11 | Subject: Algorithms | Year: 1996 | Pages: 115 | Rating: 0.9
Title: Book8 | Subject: Data Structures | Year: 2007 | Pages: 484 | Rating: 0.9

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 5
Enter subject: operating systems
4 books found with subject operating systems:
Title: Book13 | Subject: Operating Systems | Year: 1999 | Pages: 219 | Rating: 9.2
Title: Book16 | Subject: Operating Systems | Year: 1997 | Pages: 803 | Rating: 6.0
Title: Book14 | Subject: Operating Systems | Year: 1982 | Pages: 662 | Rating: 3.2
Title: Book15 | Subject: Operating Systems | Year: 1987 | Pages: 434 | Rating: 1.7

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 5
Enter subject: antenna theory
0 books found with subject antenna theory:

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option:
```

1-6

```
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 5
Enter subject: antenna theory
0 books found with subject antenna theory:

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 6
Enter title: book18
Title: Book18 | Subject: Gaming | Year: 1993 | Pages: 239 | Rating: 4.5

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 6
Enter title: nineteen eighty-four
No book found with title nineteen eighty-four

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option:
```

1-7

```
7. Add a book
8. Exit
Choose an option: 6
Enter title: book18
Title: Book18 | Subject: Gaming | Year: 1993 | Pages: 239 | Rating: 4.5

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 6
Enter title: nineteen eighty-four
No book found with title nineteen eighty-four

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 7
Enter title: Implementation Patterns
Enter subject: Programming
Enter year: 2007
Enter pages: 130
Enter rating (double): 10.0
not enough space, resizing ArrayList
Book added: Title: Implementation Patterns | Subject: Programming | Year: 2007 | Pages: 130 | Rating: 10.0

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option:
```

1-7-1

```
Enter pages: 130
Enter rating (double): 10.0
not enough space, resizing ArrayList
Book added: Title: Implementation Patterns | Subject: Programming | Year: 2007 | Pages: 130 | Rating: 10.0

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 1
Title: Book13 | Subject: Operating Systems | Year: 1999 | Pages: 219 | Rating: 9.2
Title: Book2 | Subject: Programming | Year: 2014 | Pages: 591 | Rating: 8.5
Title: Book3 | Subject: Programming | Year: 1990 | Pages: 533 | Rating: 8.3
Title: Book10 | Subject: Algorithms | Year: 2018 | Pages: 126 | Rating: 8.1
Title: Book7 | Subject: Data Structures | Year: 2002 | Pages: 373 | Rating: 8.1
Title: Book19 | Subject: Gaming | Year: 1988 | Pages: 371 | Rating: 7.1
Title: Book9 | Subject: Algorithms | Year: 1989 | Pages: 163 | Rating: 6.5
Title: Book16 | Subject: Operating Systems | Year: 1997 | Pages: 803 | Rating: 6.0
Title: Book5 | Subject: Data Structures | Year: 2004 | Pages: 768 | Rating: 5.4
Title: Book12 | Subject: Algorithms | Year: 1998 | Pages: 424 | Rating: 4.6
Title: Book18 | Subject: Gaming | Year: 1993 | Pages: 239 | Rating: 4.5
Title: Book17 | Subject: Gaming | Year: 1985 | Pages: 719 | Rating: 4.2
Title: Book6 | Subject: Data Structures | Year: 1992 | Pages: 659 | Rating: 3.9
Title: Book14 | Subject: Operating Systems | Year: 1982 | Pages: 662 | Rating: 3.2
Title: Book1 | Subject: Programming | Year: 2003 | Pages: 429 | Rating: 1.9
Title: Book4 | Subject: Programming | Year: 2017 | Pages: 605 | Rating: 1.9
Title: Book15 | Subject: Operating Systems | Year: 1987 | Pages: 434 | Rating: 1.7
Title: Book20 | Subject: Gaming | Year: 2005 | Pages: 141 | Rating: 1.4
Title: Book11 | Subject: Algorithms | Year: 1996 | Pages: 115 | Rating: 0.9
Title: Book8 | Subject: Data Structures | Year: 2007 | Pages: 484 | Rating: 0.9
Title: Implementation Patterns | Subject: Programming | Year: 2007 | Pages: 130 | Rating: 10.0

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option:
```

1-8

```
not enough space, resizing ArrayList
Book added: Title: Implementation Patterns | Subject: Programming | Year: 2007 | Pages: 130 | Rating: 10.0

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 1
Title: Book13 | Subject: Operating Systems | Year: 1999 | Pages: 219 | Rating: 9.2
Title: Book2 | Subject: Programming | Year: 2014 | Pages: 591 | Rating: 8.5
Title: Book3 | Subject: Programming | Year: 1990 | Pages: 533 | Rating: 8.3
Title: Book10 | Subject: Algorithms | Year: 2018 | Pages: 126 | Rating: 8.1
Title: Book7 | Subject: Data Structures | Year: 2002 | Pages: 373 | Rating: 8.1
Title: Book19 | Subject: Gaming | Year: 1988 | Pages: 371 | Rating: 7.1
Title: Book9 | Subject: Algorithms | Year: 1989 | Pages: 163 | Rating: 6.5
Title: Book16 | Subject: Operating Systems | Year: 1997 | Pages: 803 | Rating: 6.0
Title: Book5 | Subject: Data Structures | Year: 2004 | Pages: 768 | Rating: 5.4
Title: Book12 | Subject: Algorithms | Year: 1998 | Pages: 424 | Rating: 4.6
Title: Book18 | Subject: Gaming | Year: 1993 | Pages: 239 | Rating: 4.5
Title: Book17 | Subject: Gaming | Year: 1985 | Pages: 719 | Rating: 4.2
Title: Book6 | Subject: Data Structures | Year: 1992 | Pages: 659 | Rating: 3.9
Title: Book14 | Subject: Operating Systems | Year: 1982 | Pages: 662 | Rating: 3.2
Title: Book1 | Subject: Programming | Year: 2003 | Pages: 429 | Rating: 1.9
Title: Book4 | Subject: Programming | Year: 2017 | Pages: 605 | Rating: 1.9
Title: Book15 | Subject: Operating Systems | Year: 1987 | Pages: 434 | Rating: 1.7
Title: Book20 | Subject: Gaming | Year: 2005 | Pages: 141 | Rating: 1.4
Title: Book11 | Subject: Algorithms | Year: 1996 | Pages: 115 | Rating: 0.9
Title: Book8 | Subject: Data Structures | Year: 2007 | Pages: 484 | Rating: 0.9
Title: Implementation Patterns | Subject: Programming | Year: 2007 | Pages: 130 | Rating: 10.0

Menu
1. List all books
2. Sort by year (ascending)
3. Sort by length (ascending)
4. Sort by rating (descending)
5. Filter by subject
6. Search for a book
7. Add a book
8. Exit
Choose an option: 8
Exit code received.
[jalan@thinkpad arraylist-library]$
```