Part 2 - Test Case

Sorted\_Book\_Info.txt

Original information:

162900876 Core\_Java 2007 Mike\_Simon 129.99 568

200900210 C\_# 2007 D.\_Smith 109.99 387

230759326 Cellular\_Communications 2010 Jones\_Tomson 127.87 512

465979798 From\_Java\_to\_C++ 2017 Linda\_Jackson 118.73 439

529086890 Software\_Engineering 2005 Alain\_Macmillan 219.99 651

760098908 Microsoft\_VC++ 2006 Garry\_Wesley 165.20 416

765867999 Java\_Applications\_for\_Programmers 2010 David\_Wilson\_and\_Jack\_Westman 173.25 672

798887166 Visual\_Basic 2004 Mary\_Rosen 108.33 388

800003243 VLSI 2016 Martha\_Niclson 117.29 360

812869776 Database\_Systems 2007 Peter\_Jones\_and\_Jack\_Lewis 157.87 862

845091209 Pattern\_Recognition 1998 Sam\_Davis 212.59 328

900876512 Programming\_Methodologies 2009 Steve\_A.\_Richmond 182.95 590

920797767 OO\_Programming 2008 Frank\_Raymond 182.25 439

929568679 Design\_Pattern 2002 Jay\_Franklin 122.15 217

957877747 Networking\_and\_Data\_Communications 2010 Pete\_Jonson 229.25 724

By testing, it is confirmed that the newly stored ISBN number can’t be smaller than 957877747, which was the last number in the original txt.

Case: Adding 967777777 to the list and finding it.

We need to store your new book's information:

Please enter (long)ISBN: 967777777

Please enter your (String)title: Comp249

Please enter your (int)issueYear: 1998

Please enter your (String)author: Jack

Please enter your (double)price: 140

Please enter your (int)pages: 300

Next information? Please enter Y/N: n

Here are the contents of file Sorted\_Book\_Info.txt:

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162900876 Core\_Java 2007 Mike\_Simon 129.99 568

200900210 C\_# 2007 D.\_Smith 109.99 387

230759326 Cellular\_Communications 2010 Jones\_Tomson 127.87 512

465979798 From\_Java\_to\_C++ 2017 Linda\_Jackson 118.73 439

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798887166 Visual\_Basic 2004 Mary\_Rosen 108.33 388

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812869776 Database\_Systems 2007 Peter\_Jones\_and\_Jack\_Lewis 157.87 862

845091209 Pattern\_Recognition 1998 Sam\_Davis 212.59 328

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920797767 OO\_Programming 2008 Frank\_Raymond 182.25 439

929568679 Design\_Pattern 2002 Jay\_Franklin 122.15 217

957877747 Networking\_and\_Data\_Communications 2010 Pete\_Jonson 229.25 724

967777777 Comp249 1998 Jack 140.0 300

Search the ISBN

please input the (int)startIndex which is greater than or equal to 1:1

please input the (int)endIndex which is less or equal than 16:16

please input the (long) searchISBN:967777777

The ISBN is found by 5 iterations

Search the ISBN

please input the (int)startIndex, which should be greater than or equal to 1:1

please input the (int)endIndex, which is less than or equal to 1616

please input the (long) searchISBN:967777777

The ISBN is found by 16 iterations and it's at the 16th position

162900876 Core\_Java 2007 Mike\_Simon 129.99 568

200900210 C\_# 2007 D.\_Smith 109.99 387

230759326 Cellular\_Communications 2010 Jones\_Tomson 127.87 512

465979798 From\_Java\_to\_C++ 2017 Linda\_Jackson 118.73 439

529086890 Software\_Engineering 2005 Alain\_Macmillan 219.99 651

760098908 Microsoft\_VC++ 2006 Garry\_Wesley 165.2 416

765867999 Java\_Applications\_for\_Programmers 2010 David\_Wilson\_and\_Jack\_Westman 173.25 672

798887166 Visual\_Basic 2004 Mary\_Rosen 108.33 388

800003243 VLSI 2016 Martha\_Niclson 117.29 360

812869776 Database\_Systems 2007 Peter\_Jones\_and\_Jack\_Lewis 157.87 862

845091209 Pattern\_Recognition 1998 Sam\_Davis 212.59 328

900876512 Programming\_Methodologies 2009 Steve\_A.\_Richmond 182.95 590

920797767 OO\_Programming 2008 Frank\_Raymond 182.25 439

929568679 Design\_Pattern 2002 Jay\_Franklin 122.15 217

957877747 Networking\_and\_Data\_Communications 2010 Pete\_Jonson 229.25 724

967777777 Comp249 1998 Jack 140.0 300

Objects have been written to the file : Books.dat.

By trying several times, the worst case for binary search takes O(logn)

But sequential search takes O(n).