

The main menu has 6 choices which are accessible through entering a number shown at the left-most side. NOTE: If the program is quit without exiting through the main menu, then all changes will NOT be saved.

```
Welcome to the Record Setter! We take, update and delete records!
No records.

Note: If you quit the program without exiting through this menu, all changes will not be saved.

1 - Create a new record
2 - Display record
3 - Edit an existing record
4 - Delete an existing record
5 - Sort records
6 - Exit the program
Choice:
```

Choice 1: Record Creation

First, the program will prompt the user to enter a name for their record. Then, the user will select a data field and enter a value.

```
Choice: 1
Please enter the name of your record: My First Record

Key      Data field      Value
1        Item Id
2        Item Name
3        Item Description
4        Category
5        Manufacturer
6        Selling Price
7        Cost Price
8        Units in Store
9        Units Sold
10       Year of Date First Introduced
11       Month of Date First Introduced
12       Day of Date First Introduced
Please enter the key of the field that you wish to insert ('-1' to exit to main menu, '0' when done): 1
Please enter the value that you want to enter: 1161104589

Key      Data field      Value
1        Item Id      1161104589
2        Item Name
3        Item Description
4        Category
5        Manufacturer
6        Selling Price
7        Cost Price
8        Units in Store
9        Units Sold
10       Year of Date First Introduced
11       Month of Date First Introduced
12       Day of Date First Introduced
Please enter the key of the field that you wish to insert ('0' to exit):
```

Data fields 1 – 5 accept any texts

Data fields 6 – 7 accept floating point numbers

Data fields 8 – 12 accept only integers

```
Please enter the key of the field that you wish to insert ('0' to exit): 2
Please enter the value that you want to enter: Avatar
```

Key	Data field	Value
1	Item Id	1161104589
2	Item Name	Avatar
3	Item Description	
4	Category	
5	Manufacturer	
6	Selling Price	
7	Cost Price	
8	Units in Store	
9	Units Sold	
10	Year of Date First Introduced	
11	Month of Date First Introduced	
12	Day of Date First Introduced	

```
Please enter the key of the field that you wish to insert ('0' to exit): 6
Please enter a positive value of the field: 7.5
```

Key	Data field	Value
1	Item Id	1161104589
2	Item Name	Avatar
3	Item Description	
4	Category	
5	Manufacturer	
6	Selling Price	7.500000
7	Cost Price	
8	Units in Store	
9	Units Sold	
10	Year of Date First Introduced	
11	Month of Date First Introduced	
12	Day of Date First Introduced	

```
Please enter the key of the field that you wish to insert ('0' to exit): 9
Please enter a positive value of the field: 16
```

Key	Data field	Value
1	Item Id	1161104589
2	Item Name	Avatar
3	Item Description	
4	Category	
5	Manufacturer	
6	Selling Price	7.500000
7	Cost Price	
8	Units in Store	
9	Units Sold	16
10	Year of Date First Introduced	
11	Month of Date First Introduced	
12	Day of Date First Introduced	

```
Please enter the key of the field that you wish to insert ('0' to exit):
```

Once the user is done with the record, the user enters a '0' in the data field selection and the record is created.

Choice 2: Displaying Records

Sometimes, the user wishes to search for records that contains the value that the user wants. This is done by first specifying the data field that the user wishes to search at followed by the value. Then, the user will specify whether the search has to exactly match or merely contains the entered value. The program may only support up to 3 search conditions.

```
Please enter the key of the field that you wish to insert ('0' to exit): 0
Welcome to the Record Setter! We take, update and delete records!

Available records
*****

Key      Record
1        My First Record

Note: If you quit the program without exiting through this menu, all changes will not be saved.

1 - Create a new record
2 - Display record
3 - Edit an existing record
4 - Delete an existing record
5 - Sort records
6 - Exit the program
Choice: 2

Key      Data field
1        Item Id
2        Item Name
3        Item Description
4        Category
5        Manufacturer
6        Selling Price
7        Cost Price
8        Units in Store
9        Units Sold
10       Year of Date First Introduced
11       Month of Date First Introduced
12       Day of Date First Introduced

Please enter the key of the field that you wish to search ('0' to exit): 2
Please enter the value that you wish to search (Enter '>' or '<' followed by numbers for comparison: Avatar
Please enter 1 for full string search or 2 for sub-string search: 1
Please enter the key of the field that you wish to search ('0' to exit):
```

Besides that, the user may try to search for all records that have a value greater or smaller than a certain value. To accomplish this, the user must then select a valid data field (6 – 12) and include a '<' or '>' followed by numbers. Once the user is satisfied, the user will enter a '0' to begin the search process. The program will then list down all of the records that satisfy ALL of the search conditions .

```
Please enter the key of the field that you wish to search ('0' to exit): 2
Please enter the value that you wish to search (Enter '>' or '<' followed by numbers for comparison: Avatar
Please enter 1 for full string search or 2 for sub-string search: 1
Please enter the key of the field that you wish to search ('0' to exit): 6
Please enter the value that you wish to search (Enter '>' or '<' followed by numbers for comparison: <10
Please enter the key of the field that you wish to search ('0' to exit): 0

Available records
*****

Key      Record
1        My First Record
Please enter the key of the record to be displayed ('0' to exit, '-1' to display all records):
```

Once the result is displayed, the user may either select the specific records to view by entering their key or enter '-1' to view all of the listed records. After that, the user has either select the specific data fields that the user wishes to display or enter '13' to display everything or '14' to reset the data fields. The program will then display the selected records with the selected data fields.

```
Available records
*****

Key      Record
1        My First Record
Please enter the key of the record to be displayed ('0' to exit, '-1' to display all records): 1
Please enter the key of the field that you wish to display (0 to exit, 13 to display everything, 14 to reset): 2
Please enter the key of the field that you wish to display (0 to exit, 13 to display everything, 14 to reset): 6
Please enter the key of the field that you wish to display (0 to exit, 13 to display everything, 14 to reset): 8
Please enter the key of the field that you wish to display (0 to exit, 13 to display everything, 14 to reset): 9
Please enter the key of the field that you wish to display (0 to exit, 13 to display everything, 14 to reset): 0

Record Name: My First Record

Key      Data field      Value
2        Item Name      Avatar
6        Selling Price    7.500000
8        Units in Store
9        Units Sold      16
Press enter to continue:
```

Choice 3: Editing Records

To edit a record, the user first selects the record to be edited by entering its key. Then the user chooses whether to update or delete the data of a data field.

```
Choice: 3
Please enter the record you wish to edit ('0' to exit): 1

Record Name: My First Record

Key      Data field      Value
1        Item Id      1161104589
2        Item Name     Avatar
3        Item Description  A great movie
4        Category      Movie
5        Manufacturer
6        Selling Price  7.500000
7        Cost Price
8        Units in Store
9        Units Sold     16
10       Year of Date First Introduced  2012
11       Month of Date First Introduced
12       Day of Date First Introduced

1 - Update a field
2 - Delete a field
Choice:
```

To update or delete a field, the user must enter the data field followed by its new value. The data fields still follow the same rules as while creating the record.

1 - Update a field

2 - Delete a field

Choice: 1

Record Name: My First Record

Key	Data field	Value
1	Item Id	1161104589
2	Item Name	Avatar
3	Item Description	A great movie
4	Category	Movie
5	Manufacturer	
6	Selling Price	7.500000
7	Cost Price	
8	Units in Store	
9	Units Sold	16
10	Year of Date First Introduced	2012
11	Month of Date First Introduced	
12	Day of Date First Introduced	

Please enter the key of the field that you wish to update ('0' to exit): 2

Please enter the value that you want to enter: Avatar the Last Bender

Record Name: My First Record

Key	Data field	Value
1	Item Id	1161104589
2	Item Name	Avatar the Last Bender
3	Item Description	A great movie
4	Category	Movie
5	Manufacturer	
6	Selling Price	7.500000
7	Cost Price	
8	Units in Store	
9	Units Sold	16
10	Year of Date First Introduced	2012
11	Month of Date First Introduced	
12	Day of Date First Introduced	

1 - Update a field
2 - Delete a field
Choice: 2

Record Name: My First Record

Key	Data field	Value
1	Item Id	1161104589
2	Item Name	Avatar the Last Bender
3	Item Description	A great movie
4	Category	Movie
5	Manufacturer	Some animation company
6	Selling Price	7.500000
7	Cost Price	
8	Units in Store	
9	Units Sold	16
10	Year of Date First Introduced	2012
11	Month of Date First Introduced	
12	Day of Date First Introduced	

Please enter the key of the field that you wish to delete ('0' to exit): 6

Record Name: My First Record

Key	Data field	Value
1	Item Id	1161104589
2	Item Name	Avatar the Last Bender
3	Item Description	A great movie
4	Category	Movie
5	Manufacturer	Some animation company
6	Selling Price	
7	Cost Price	
8	Units in Store	
9	Units Sold	16
10	Year of Date First Introduced	2012
11	Month of Date First Introduced	
12	Day of Date First Introduced	

Choice 4: Deleting Records

To delete a record, the user must specify the record to be deleted by entering its key. Note that the record is not deleted permanently until the user exits through the main menu (using Choice 6).

```
Choice: 4

Available records
*****

Key      Record
1        My First Record
Please enter the record you wish to delete ('0' to exit): 1
Welcome to the Record Setter! We take, update and delete records!
No records.

Note: If you quit the program without exiting through this menu, all changes will not be saved.

1 - Create a new record
2 - Display record
3 - Edit an existing record
4 - Delete an existing record
5 - Sort records
6 - Exit the program
Choice:
```

Choice 5: Sorting Records

If the user wishes to sort their records based on one data field or arrange their records neatly based on the record's keys, then the user may use this function. First, the user must specify whether to sort based on data field or key. Choosing to sort based on key will cause the program to prompt the user to select whether to sort the keys in ascending or descending order. (For this example a dummy database file will be used)


```

23      1
6       Mahedi
25      1
4       2
5       1
28      2
29     12

1 - Sort by data field
2 - Sort by key
Choice: 2
1 - Ascending, 2 - Descending: 1
Welcome to the Record Setter! We take, update and delete records!

Available records
*****

Key      Record
1       lol
2       second
3       4th
4       2
5       1
6       Mahedi
7       0
8       8th record

```

If the user wishes to sort by data field, the user will specify the data field and whether to sort in ascending or descending order. (Note: only data fields 6 – 12 will have the option to be sorted numerically)

```

11      9.9
12      1
13      00000000000001
14      1
15      1
16      02
17      0
18      1
19      hello
20      3rd
21      1
22      1
23      1
6       Mahedi
25      1
4       2
5       1
28      2
29      12

1 - Sort by data field
2 - Sort by key
Choice: 1
Please enter the field that you wish to sort ('0' to exit): 1
1 - Ascending, 2 - Descending: 2
Welcome to the Record Setter! We take, update and delete records!

Available records
*****

Key      Record
2        second
7        0
3        4th
9        hello
11       9.9
12       1

```

Choice 6: Exiting the Program

When the user is finished with the program, then the user will exit by entering the number 6 in the main menu. This effectively rewrites the database file with new data, and making any changes to the records permanent.