

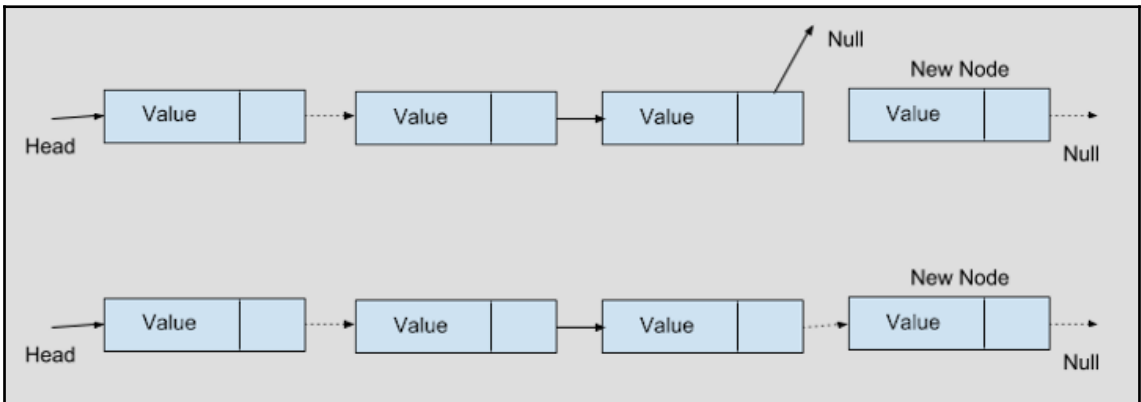
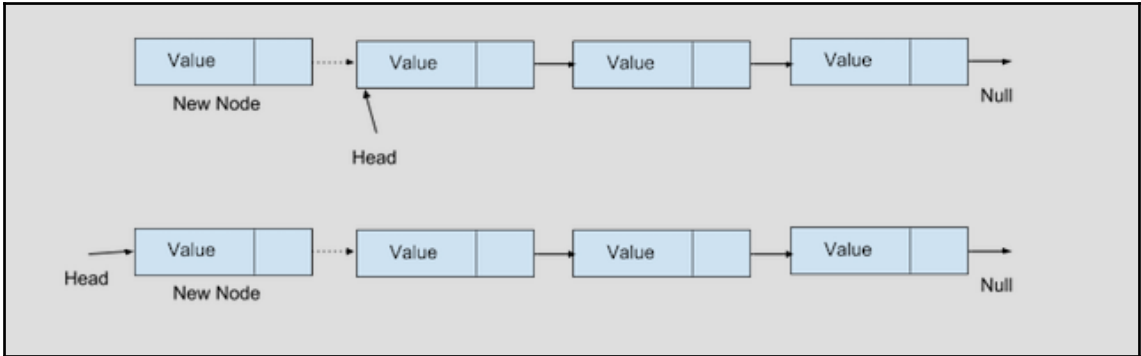
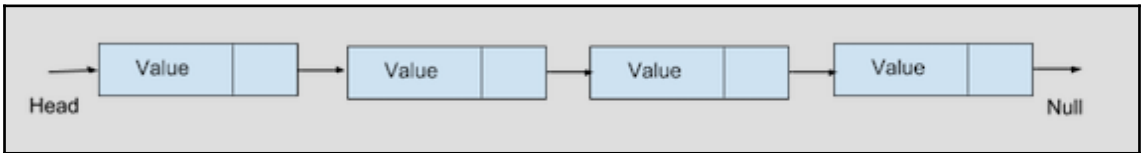
# Chapter 1: A Walk Through - Data Structures and Algorithms

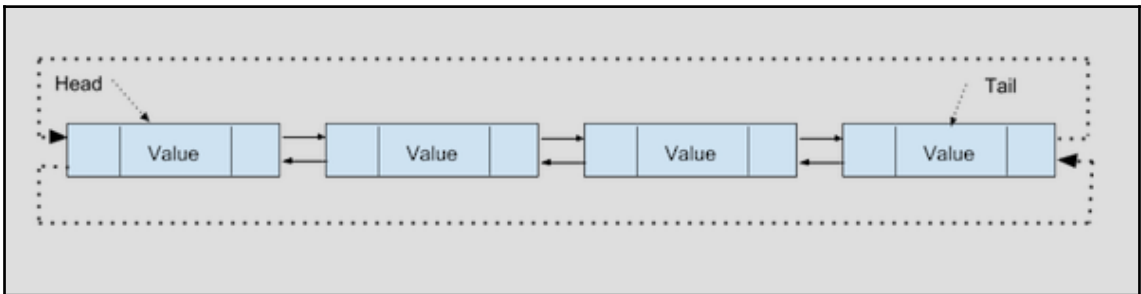
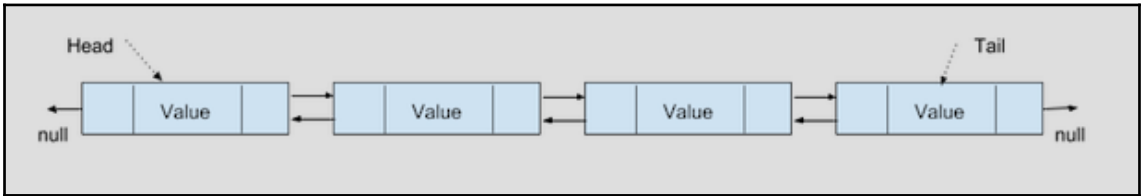
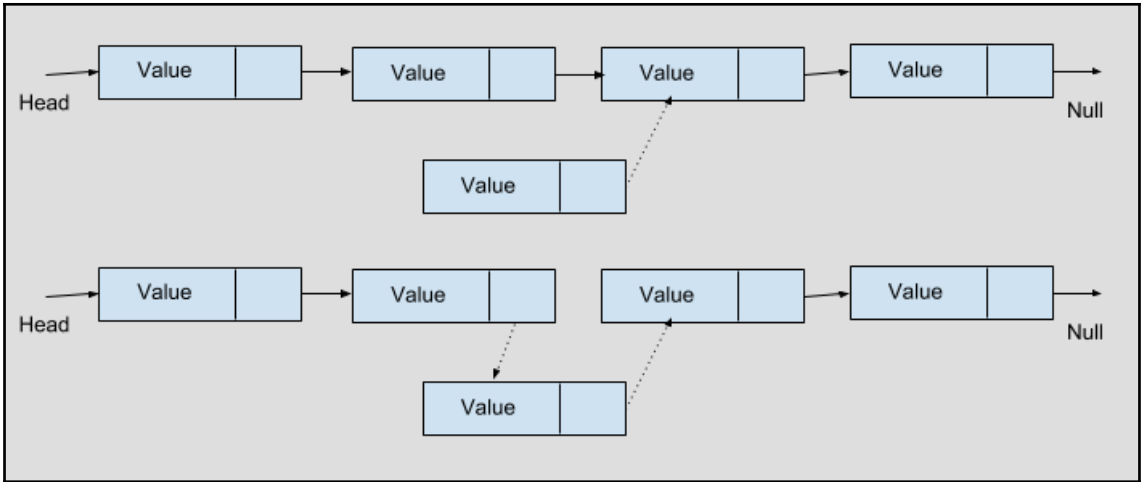
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# Chapter 2: Arrays - First Step to Grouping Data

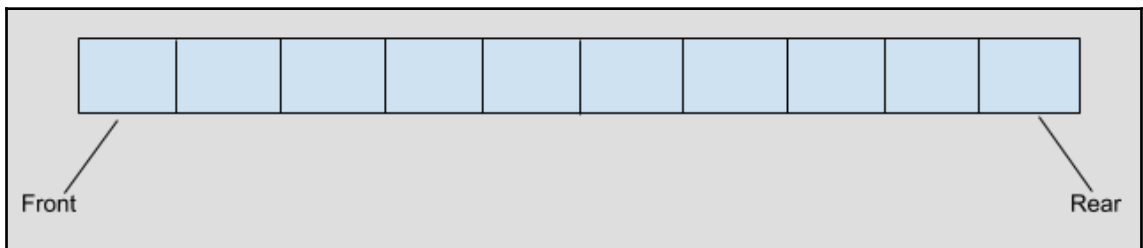
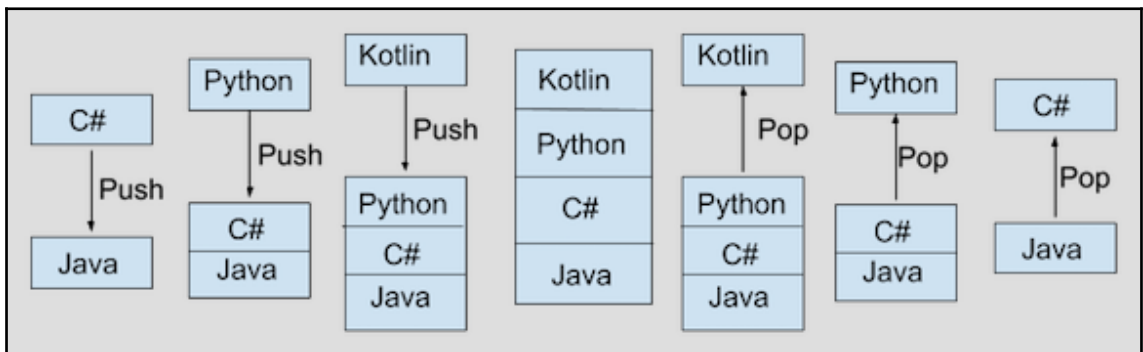
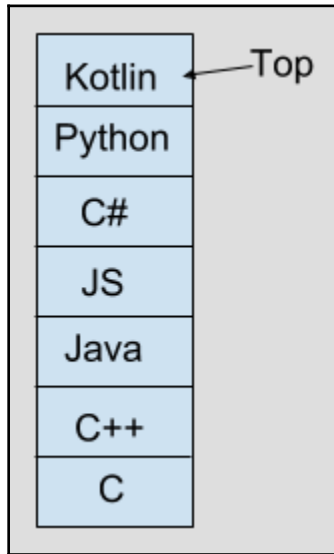
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# Chapter 3: Introducing Linked Lists

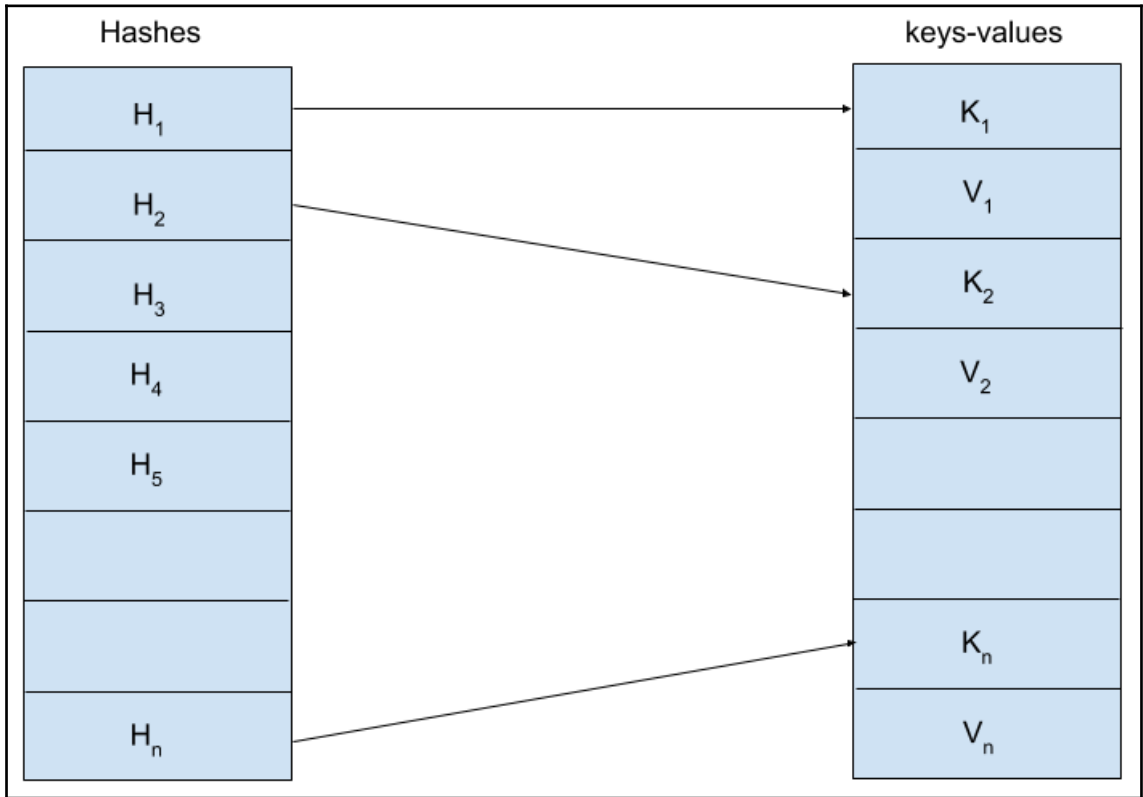




# Chapter 4: Understanding Stacks and Queues

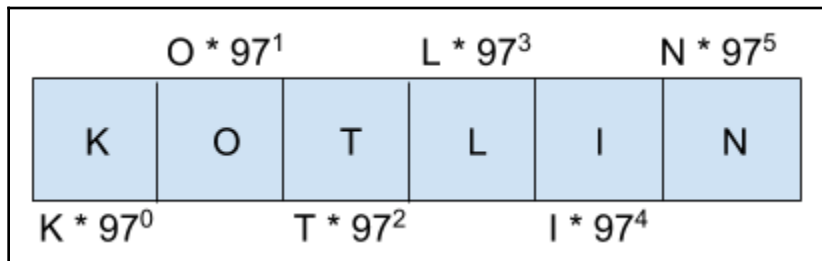


# Chapter 5: Maps - Working with Key-value Pairs

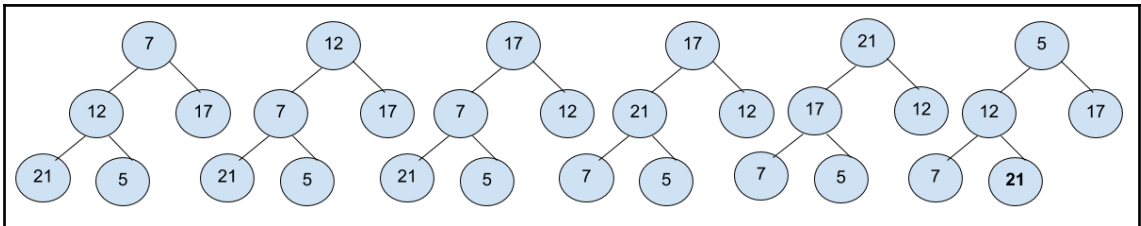
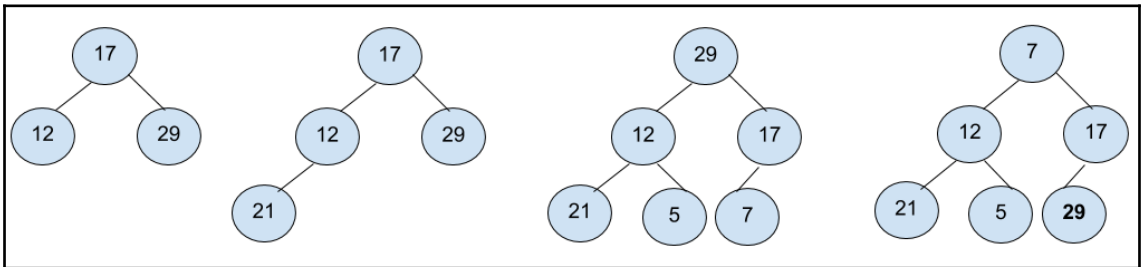
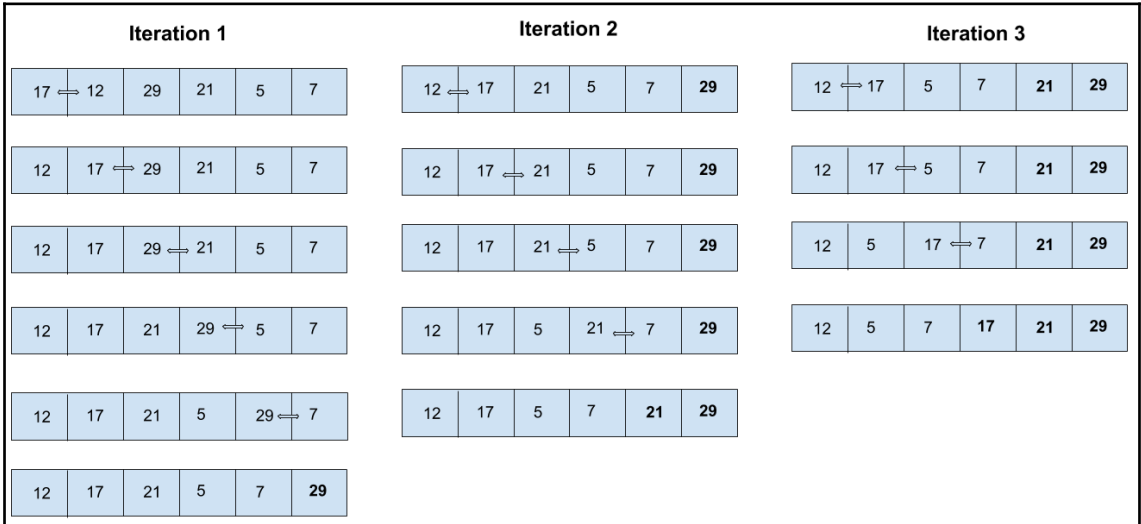


# Chapter 6: Deep-Dive into Searching Algorithms

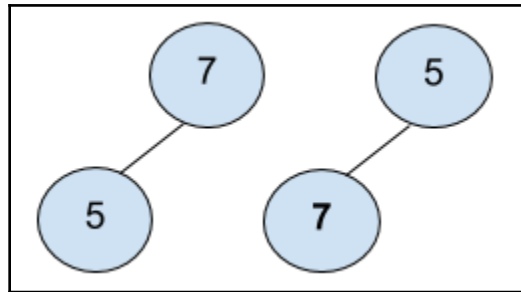
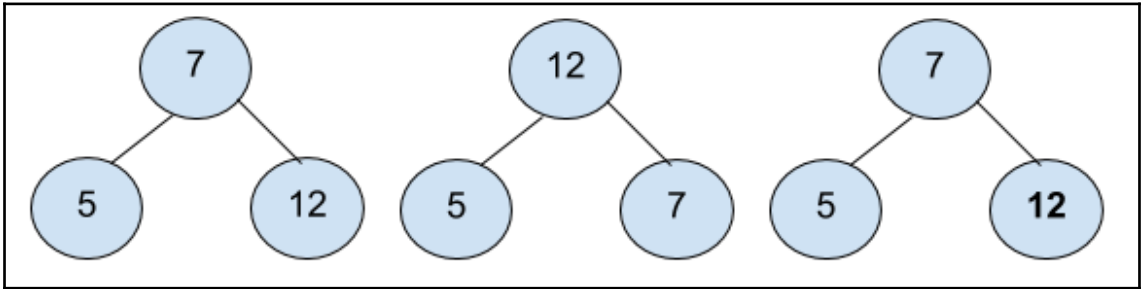
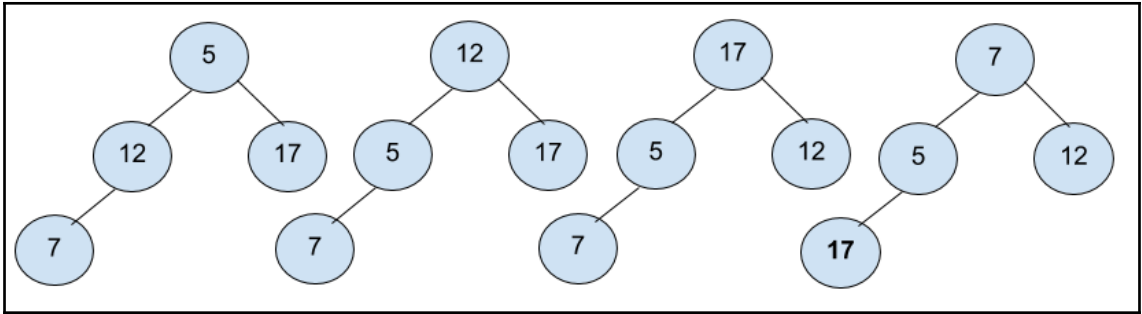
6	17	23	38	42	67	71	95	102	137	142	159	203	Let's search 142 Go to the mid element
6	17	23	38	42	67	71	95	102	137	142	159	203	142 > 71 Search further at right half Go to the mid of right half
6	17	23	38	42	67	71	95	102	137	142	159	203	142 > 137 Search further at right half Go to the mid of right half
6	17	23	38	42	67	71	95	102	137	142	159	203	142 < 159 Search further at left half Go to the mid of left half
6	17	23	38	42	67	71	95	102	137	142	159	203	142 = 142 Element found Return the index



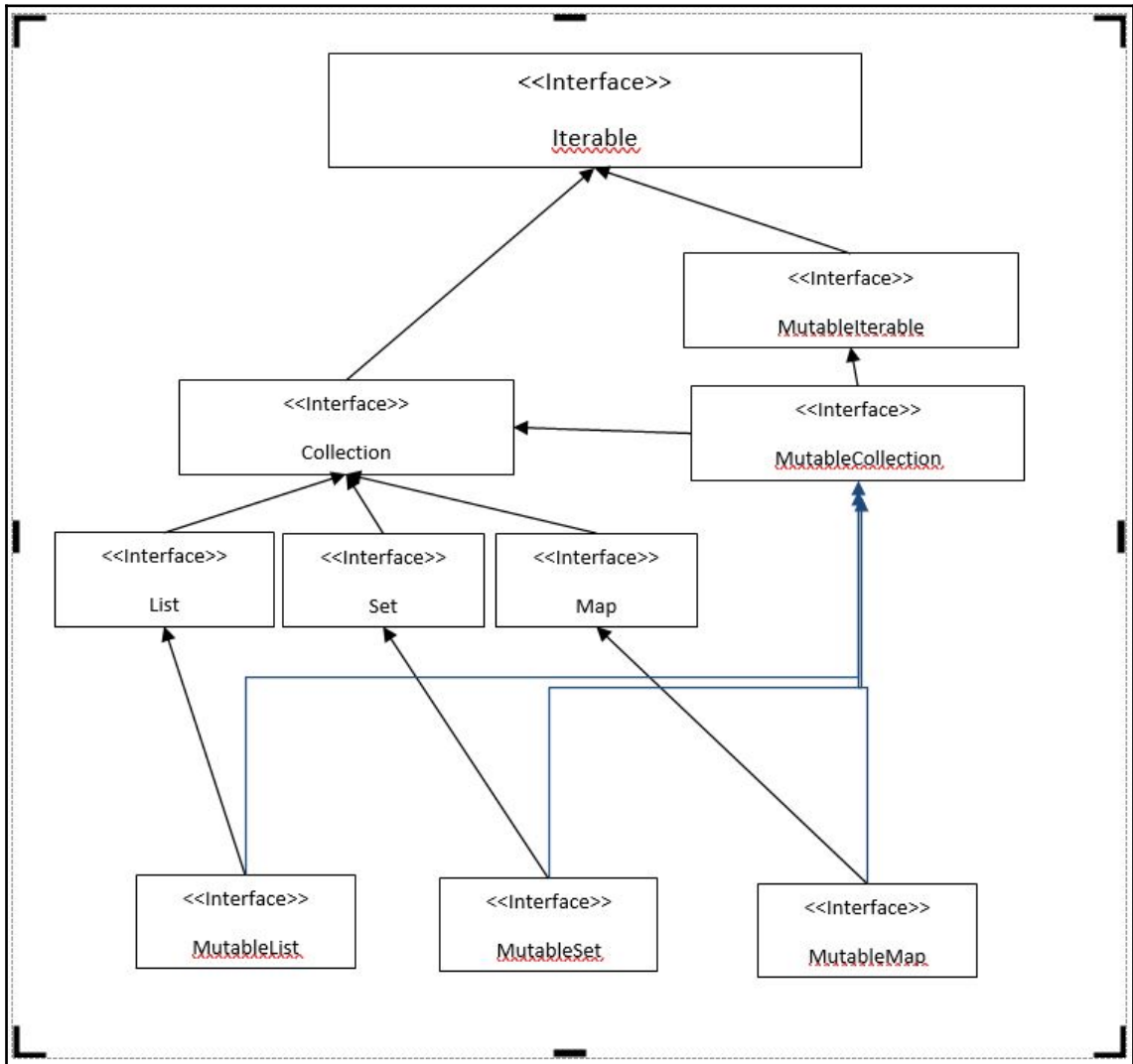
# Chapter 7: Understanding Sorting Algorithms







# Chapter 8: Collections and Data Operations in Kotlin



```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
```

```
List Item 10
```

```
List Item 8
```

```
List Item 18
```

```
List Item 45
```

```
List Item 63
```

```
List Item 49
```

```
List Item 88
```

```
List Item 15
```

```
List Item 62
```

```
Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
```

```
List Item 8  
List Item 10  
List Item 15  
List Item 18  
List Item 45  
List Item 49  
List Item 62  
List Item 63  
List Item 88
```

```
Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
```

```
Employee(employeeID=1, employeeName=Rivu Chakraborty)  
Employee(employeeID=2, employeeName=Chandra Sekhar Nayak)  
Employee(employeeID=3, employeeName=Sonkho Deep Mondal)  
Employee(employeeID=4, employeeName=Indranil Dutta)  
Employee(employeeID=5, employeeName=Koushik Mridha)  
Employee(employeeID=6, employeeName=Debraj Dey)
```

```
Process finished with exit code 0
```

Index of 18 2

Process finished with exit code 0

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
```

```
-----Created With Items-----
```

```
list item 1
```

```
list item 2
```

```
list item 5
```

```
-----After Adding Items-----
```

```
list item 1
```

```
list item 2
```

```
list item 3
```

```
list item 4
```

```
list item 5
```

```
list item 6
```

```
Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
```

```
3rd and 4th Item on List -> 4, 5
```

```
Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
```

```
set before add [1, 2, 3, 4]
```

```
set after add [1, 2, 3, 4, 5, 6]
```

```
Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
```

```
Printing items of dataClassSet one by one
```

```
MyDataClass(someNumericValue=1, someStringValue=1st obj)
```

```
MyDataClass(someNumericValue=2, someStringValue=2nd obj)
```

```
MyDataClass(someNumericValue=3, someStringValue=3rd obj)
```

```
MyDataClass(someNumericValue=4, someStringValue=4th obj)
```

```
MyDataClass(someNumericValue=5, someStringValue=5th obj)
```

```
MyDataClass(someNumericValue=2, someStringValue=will be added)
```

```
Process finished with exit code 0
```

```
The value at Key `Key Four` is 4.0
Contents in map
Key Key One, Value 1.0
Key Key Two, Value 2.0
Key Key Three, Value 3.0
Key Key Four, Value 4.0
Key Key Five, Value 5.0
Key Key Six, Value 6.0
Replacing value at key - `Key Five` - 5.0
Contents in mutableMap
Key Key One, Value 1.0
Key Key Two, Value 2.0
Key Key Three, Value 3.0
Key Key Four, Value 4.0
Key Key Five, Value 5.5
Key Key Six, Value 6.0

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...  
modifiedList -> [4, 5, 6, 7, 8, 9, 10, 11, 12, 13]  
  
Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...  
Filtered List with Even Numbers-> [2, 4, 6, 8, 10,  
12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36,  
38, 40, 42, 44, 46, 48]  
Filtered List with Perfect Squares -> [1, 4, 9, 16,  
25, 36, 49]  
  
Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...  
flatMappedList -> [10, 11, 12, 13, 14, 15, 16, 17,  
18, 19, 20, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29,  
30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 30, 31,  
32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44,  
45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57,  
58, 59, 60]  
  
Process finished with exit code 0
```



```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
```

```
list.drop(20) -> [21, 22, 23, 24, 25, 26, 27, 28, 29,  
30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42,  
43, 44, 45, 46, 47, 48, 49]
```

```
list.dropLast(20) -> [1, 2, 3, 4, 5, 6, 7, 8, 9, 10,  
11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23,  
24, 25, 26, 27, 28, 29]
```

```
Process finished with exit code 0
```

# Chapter 9: Introduction to Functional Programming

```
/Library/Java/JavaVirtualMachines/jdk1.8.0_181.jdk/Contents/Home/bin/java ...  
Some(10)  
None  
  
Process finished with exit code 0
```

```
/Library/Java/JavaVirtualMachines/jdk1.8.0_181.jdk/Contents/Home/bin/java ...  
It's 10  
It's 2  
It's blank  
It's 200  
It's blank  
  
Process finished with exit code 0
```

```
/Library/Java/JavaVirtualMachines/jdk1.8.0_181.jdk/Contents/Home/bin/java ...  
Success Right(b=The value is 10)  
Failure Left(a=java.lang.Exception: No value passed)  
  
Process finished with exit code 0
```

```
/Library/Java/JavaVirtualMachines/jdk1.8.0_181.jdk/Contents/Home/bin/java ...  
[Modified 1, Modified 2, Modified 3, Modified 4, Modified 5]  
  
Process finished with exit code 0
```

```
/Library/Java/JavaVirtualMachines/jdk1.8.0_181.jdk/Contents/Home/bin/java ...  
[2, 4, 6, 8, 10]  
[Mapped 1, Mapped 2, Mapped 3, Mapped 4, Mapped 5]  
[1.0, 2.0, 3.0, 4.0, 5.0]  
  
Process finished with exit code 0
```

```
/Library/Java/JavaVirtualMachines/jdk1.8.0_181.jdk/Contents/Home/bin/java ...  
Some(It is 10)  
None  
  
Process finished with exit code 0
```

```
/Library/Java/JavaVirtualMachines/jdk1.8.0_181.jdk/Contents/Home/bin/java ...  
Author: Some(Tuple3(a=Rivu, b=BYJUS, c=Bangalore))  
  
Process finished with exit code 0
```

```
/Library/Java/JavaVirtualMachines/jdk1.8.0_181.jdk/Contents/Home/bin/java ...  
Some(11)  
Some(Some(11))  
  
Process finished with exit code 0
```

```
/Library/Java/JavaVirtualMachines/jdk1.8.0_181.jdk/Contents/Home/bin/java ...  
Some(15)  
  
Process finished with exit code 0
```