

Project State

While implementing the project I encountered few milestones which are listed below

Roadblock#1: Segmentation fault

While creating arrays dynamically and accessing them I was running into this issue

Roadblock#2: Reading category names

Extracting the names of the category when space separated was difficult. Eventually used split command to do it

Roadblock#3: Reading input file for full submission

The input text file is a combination of /n and \n. So, I have created a new text file and have copied the input file and made a new text file and all the functions were working correctly. I have attached screen shots below.

```
Terminal
[prannoys21@hadoopmaster]~/Documents/krishna sumanth/KRISHNASUMANTH -GUNDLURU/Code/KRISHNASUMANTH-GUNDLURU/Code/P2 Full/final
$ ./mounika < 1
HashTable with Number of Nodes of each set size:
0      19
1      10
2       1
3       1
loadFactor: 0.483871
-----
find app:
Utilities
GIF Keyboard
2.2
20.4
MB
0
*****
Category not found
*****
find price free:
Chrome
Flashlight
GIF Keyboard
Google
My Verizon Mobile
QR Reader for iPhone
Wake Alarm Clock
myAT&T
AccuWeather
The Weather Channel
*****
Chrome
Crystal
Flashlight
GIF Keyboard
Geekbench 3
Google
My Verizon Mobile
QR Reader for iPhone
Swipe
Wake Alarm Clock
myAT&T
*****
No Applications found for given range
*****
App deleted from hash table
App deleted from bst
[prannoys21@hadoopmaster]~/Documents/krishna sumanth/KRISHNASUMANTH -GUNDLURU/Code/KRISHNASUMANTH-GUNDLURU/Code/P2 Full/final
$

Terminal
[prannoys21@hadoopmaster]~/Documents/krishna sumanth/KRISHNASUMANTH -GUNDLURU/Code/KRISHNASUMANTH-GUNDLURU/Code/P2 Full/final
$ ./mounika < 3
HashTable with Number of Nodes of each set size:
0      51
1      18
2       9
3       1
loadFactor: 0.493671
-----
find app:
Application not found
*****
App deleted from hash table
App deleted from bst
find price free:
Follow Boss
Google Translate
Bank of America
Chase Mobile
PayPal
Pandora - Free Music & Radio
Shazam - Discover music, artists, videos & lyrics
Sing! Karaoke by Smule
SoundCloud - Music & Audio
Spotify Music
Dropbox
Gmail - email from Google
Google Docs
Google Drive
Microsoft Outlook
Yahoo Mail
BuzzFeed
CNN App for iPhone
Fox News
Medium
Overcast: Podcast Player
Police Scanner+ Free
*****
Dropbox
Gmail - email from Google
Google Docs
Google Drive
Microsoft Outlook
Yahoo Mail
*****
Category not found
*****
[prannoys21@hadoopmaster]~/Documents/krishna sumanth/KRISHNASUMANTH -GUNDLURU/Code/KRISHNASUMANTH-GUNDLURU/Code/P2 Full/final
$
```

```
Terminal
[prannoys21@hadoopmaster]~/Documents/krishna sumanth/KRISHNASUMANTH -GUNDLURU/Code/KRISHNASUMANTH-GUNDLURU/Code/P2 Full/final]
$
[prannoys21@hadoopmaster]~/Documents/krishna sumanth/KRISHNASUMANTH -GUNDLURU/Code/KRISHNASUMANTH-GUNDLURU/Code/P2 Full/final]
$ ./mounika < 2.txt
239
0      141
1      79
2      19
loadFactor: 0.48954
-----
App deleted from hash table
App deleted from bst
find app:
Application not found.
-----
No Applications found for given range
-----
Catalogs
Application Name: Emoji 3 PROHeight of left subtree: 0Count of left subtree: 0Height of right tree: 2Count of right subtree: 3
Application Name: Photo PlasticHeight of left subtree: 0Count of left subtree: 0Height of right tree: 0Count of right subtree: 0
Application Name: Rainbow Loom ProHeight of left subtree: 1Count of left subtree: 1Height of right tree: 1Count of right subtree: 1
Application Name: Tattoo FontHeight of left subtree: 0Count of left subtree: 0Height of right tree: 0Count of right subtree: 0
Application Name: YL Oils & Young Living OilsHeight of left subtree: 3Count of left subtree: 4Height of right tree: 0Count of right subtree: 0
-----
App deleted from hash table
App deleted from bst
No Applications found for given range
-----
No Applications found for given range
-----
App deleted from hash table
Application not found
App deleted from bst
Application not found
App deleted from bst
Application not found
App deleted from bst
Entertainment
Application Name: Akinator the GenieHeight of left subtree: 0Count of left subtree: 0Height of right tree: 4Count of right subtree: 4
Application Name: Dude, your car!Height of left subtree: 0Count of left subtree: 0Height of right tree: 1Count of right subtree: 1
Application Name: ExallpaperHeight of left subtree: 0Count of left subtree: 0Height of right tree: 0Count of right subtree: 0
Application Name: Pocket GodHeight of left subtree: 2Count of left subtree: 2Height of right tree: 0Count of right subtree: 0
Application Name: xTubeHeight of left subtree: 3Count of left subtree: 3Height of right tree: 0Count of right subtree: 0
-----
No Applications found for given range
-----
App deleted from hash table
App deleted from bst
find app:

Terminal
$ ./mounika < 4
HashTable with Number of Nodes of each set size:
0      53
1      21
2      7
3      2
loadFactor: 0.493976
-----
App deleted from hash table
App deleted from bst
No Applications found for given range
-----
find price free:
Hair Color Dye
Jo-Ann
Photo Plastic
Mad Libs
PBS KIDS Video
Sky Whale
YouTube Kids
Uber
Yelp
ClassDojo
Google Classroom
PhotoMath
iTunes U
RTN2Go
DailyMVP: Daily Fantasy Sports
ESPN
FOX Sports GO
FanDuel: One Day Fantasy Sports Leagues
MLB.com At Bat
Univision Deportes
WatchESPN
-----
Books
Application Name: Al Gore -- Our Choice: A Plan to Solve the Climate1.0.4Height of left subtree: 0Count of left subtree: 0Height of right tree: 1Count of right subtree: 1
Application Name: DC Comics: Batman #1Height of left subtree: 0Count of left subtree: 0Height of right tree: 0Count of right subtree: 0
Application Name: Weird But TrueHeight of left subtree: 2Count of left subtree: 2Height of right tree: 0Count of right subtree: 0
-----
find app:
Application not found.
-----
DC Comics: Batman #1
Weird But True
-----
[prannoys21@hadoopmaster]~/Documents/krishna sumanth/KRISHNASUMANTH -GUNDLURU/Code/KRISHNASUMANTH-GUNDLURU/Code/P2 Full/final]
$
```

```
Terminal
[prannoys21@hadoopmaster ~]$ ./mounika < 5
HashTable with Number of Nodes of each set size:
0      8
1      4
2      1
loadFactor: 0.461538
-----
find app:
Food & Drink
Starbucks
3.3.1
39.8
MB
0
*****
find app:
Application not found.
*****
App deleted from hash table
App deleted from bst
App deleted from hash table
App deleted from bst
[prannoys21@hadoopmaster ~]$
```

Output format:

For find category function I'm printing category name, application name, the height of its left subtree, the number of nodes in its left subtree, the height of its right subtree, and the number of nodes in its right subtree.

For find price free function all application names whose price is 0.00

For range category using price I'm printing all application names whose price fall in between the ranges

For insertion in hash table the output format is the number of chains of length up to the maximum chain length max that your hash table contains.

For hash table load factor is printed

References :

<https://www.geeksforgeeks.org/converting-strings-numbers-cc/>

<http://www.techiedelight.com/convert-string-char-array-cpp/>

<http://www.cplusplus.com/reference/string/string/append/>