



CSE225 DATA STRUCTURES

PROJECT #2 REPORT

BERK ENGİN 150117014

1. Asking input keyword from user:

```
Please enter a keyword: Samsung_
```

2. Asking the number of relevant documents from user:

```
Please enter a keyword: Samsung  
Please enter the number of relevant documents: 5_
```

3.a) Enqueue implementation:

```
void insert_BH(PrQueue *heap, char *file_name, int priority){
    PrQNode *node = create_PrQNode(file_name,priority);
    PrQueue *temp = create_PrQueue();
    temp->front = node;
    //printf(" \n\n%s      priority      %d\n\n",temp->front->file_name,temp->front->priority);
    heap->front = union_BH(heap,temp);
    free(temp);
}
```

3.b) Dequeue implementation:

```
void remove_BH(PrQueue *heap, PrQNode *front, PrQNode *prev){
    if(front == heap->front)
        heap->front = front->sibling;
    else
        prev->sibling = front->sibling;

    PrQNode *new_front = NULL;
    PrQNode *child = front->child;

    while(child != NULL){
        PrQNode *next = child->sibling;
        child->sibling = new_front;
        child->parent = NULL;
        new_front = child;
        child = next;
    }
    PrQueue *temp = create_PrQueue();
    temp->front = new_front;
    heap->front = union_BH(heap,temp);
    free(temp);
}
```

4.Relevant 5 documents with the keyword:

```
Please enter a keyword: Samsung
Please enter the number of relevant documents: 5
The relevance order is: content_635974160004(4), content_602481462916(4), content_640226922116(6), content_614351081092(9), content_643773337220(10),

content_635974160004(4): Pros:Great Picture, handles motion, good sound Cons:Stand is one piece and cannot be adjusted. The Bottom Line: Great TV for a larger bedroom or gameroom.
Bought a 2nd Xbox and it would not be fitting unless I had a new TV to go with it. I have other products from Samsung, but when I saw this TV on sale for $380 I had to buy it. My first plasma I know about the excessive heat issues as well as glare from light. This set actually handles glare well. A light is about 4 feet from the set and when on glare is barely there. I planned to play on it and watch TV in the dark (in our master bedroom) but I leave the light on sometimes and don't even notice glare when it is on. 600hz makes motion on the set flawless. On my Samsung LED the motion at times does cause issues. With this plasma it is perfect for gaming and I notice very little lag. The picture is crystal clear and rivals the 1080p set I have. For me, I notice barely any difference in picture clarity in the two TV's. OTA signals are the only thing that makes the difference between 1080p and 720p noticeable. I plan to hook a Blu Ray up to the TV and I assume the clarity will be different, but 720p is very nice and 1080p to me, is over kill. The set is Energy Star rated, so the notorious "energy hog" label is not here with this plasma. Sound is very good and crisp even at high levels. A sound bar is really not needed unless you are a sound nut and have to have it perfect. Only two HDMI inputs and I don't understand why Samsung only puts two on their cheaper flat panel TV's. Three should be the minimum four would be perfect. The only other complaint I have is the stand. All the TV's I own that are Samsung have solid stands. Is it so hard to ask to get a stand that tilts as well as rotates? It makes you place the TV at a level you will watch it at instead of moving it to improve viewing. Looking at the set at angles is very good and you can almost be at 90 degrees to the TV without picture quality going down. I have not even adjusted the settings on the set because I like the picture so much. Great TV and if any of my other TV's die I will buy another.

content_602481462916(4): Pros:Inexpensive, good picture, slim profile Cons:Audio not so great No audio output The Bottom Line: Great secondary TV.
Our kitchen computer died last month. It was a nice Sony all-in-one wall mount that we used to watch TV and stream Pandora radio. Unfortunately it was very expensive to fix (new motherboard needed) so it has been moved to the electronic recycle lab. We realized that we missed having the ability to watch some news while preparing meals or listen to Pandora radio while we eat. I didn't want to do another all-in-one computer so I looked into a wall mount HD television. We didn't really want a monster size that would overshadow our kitchen bar table so I was leaning toward 22 to 26 inches. After a lot of research I found this Samsung 22 inch that was on sale. It has 1080 resolution an antenna input along with two HDMI inputs. It also has a VESA 75mm hole pattern on the back for wall mounting. This let me use the existing wall mount we had for the Sony computer. The picture looks great if you feed it a nice signal. When it gets standard definition (SD) it looks kind of blocky but that is what TV used to look like. Our cable in the house has a lot of SD channels over the antenna cable (no cable box) but there are also a few HD channels that the Samsung picked up when I ran the auto channel setup. Those channels look awesome. My only complaint is that the audio is pretty bad. The Sony computer had an awesome sound so the Samsung is getting compared to that (the Sony also cost 10 times more). The Samsung has downward facing speakers that sound very tinny. Sure you can figure out what is being said but there is no ambience to speak of. Since there is no audio output (headphone or optical) there is no way to send the audio to some other speakers to improve the sound. I hooked up our Apple TV and the image looks very good. I thought there was Pandora on Apple TV but I was wrong. There are a lot of streaming radio stations that can provide some nice background music while we make meals. I think the 26 inch TV would look a bit better (and probably sound better) but it was almost $100 more than this model so I guess you do get what you pay for. Overall we are happy with the much less expensive replacement for our kitchen. Bradman

content_640226922116(6): Pros:Pretty picture on regular TV Cons:Horrible customer service .. left on hold, lied to. No consideration to my unique wireless problem. The Bottom Line: Stay away from Samsung. I paid for a Smart TV with a wireless feature and didn't get it. Samsung treated me like a liar.
I bought this model a year ago but did not try to use the "Smart" wireless feature (to access Netflix) until 12/4/2013. I used the regular TV feature for 6 months and then left town for 6 months. The set would not recognize the wireless. Upon my return, I resolved to try to get the wireless feature to work, thinking it was a problem with Comcast. I had a Comcast repair tech check it out and he advised that the Samsung TV was defective. I contacted Samsung and explained my problem .. and they turned me down .. said I would have to pay for a service call .. worse yet the cost would be up to the repair technician (My God, a blank check to Samsung? No Way.) Most importantly, potential buyers should be forewarned about Samsung's horriific customer service. While trying to resolve my problem, I was put on hold and left there twice .. on the third call I was told I needed an email update to download, which would be followed by a phone call to insure I was satisfied. No email and no phone call. The final call told me I needed the service call visit. I also have an LG TV which is outstanding .. shame on Samsung.

content_614351081092(9): Pros:Great picture, feature loaded Cons:Breaks, unable to be repaired by authorized repair repeatedly The Bottom Line: A feature filled television with wonderful picture quality and form factor but lasted only 3 months then was unreparable. It was returned under warranty.
We purchased the Samsung UN55ES8000 as our primary TV in our family room. We decided on this set for its stunning graphics, beautiful form and numerous features. The TV itself is an LED TV with a 240MHz refresh rate and very good color out of the box that does not require too much modifications. First, the connectivity of the television is typical. Three HDMI ports with one capable of ARC, one for CEC, and one for DVI. There is also legacy component inputs as well as a direct coaxial input. Finally there is USB inputs and the TV has an expansion slot for future upgrades by Samsung. The overall formfactor was one of the reasons that we purchased the TV. It has a very thin bezel and overall thick ness. At the bottom center of the television is a small Samsung symbol that glows when the television is turned on. At the top center of the television is a small camera and the IR receiver for the set. The television also comes with two remote controls. A standard button remote and a touch interface remote. Both performed equally well. On the rear of the television is a control pad for cycling through the menus for use without a remote. The software features of the 8000 is plentiful. It can be directly connected to the internet by ethernet or wireless. Setup is simple through the menus. The internet connection gives you the ability to access youtube, netflix, hulu, etc directly through the television as well as the ability to use Samsungs phone remote apps. The unique features of this television is the motion control and voice command control. You can activate the motion control and use hand gestures to adjust menu items, volume, etc. The voice feature is similar except it responds to your voice commands. The first 3 months we had this television there were no issues. The voice control was convenient especially if we didn't want to hunt down the remote. The motion control was fairly useless. This may be due to the position of the television and the brightness of the room the set was in. We were extremely pleased with the picture quality of the set. 3 months into owning the set is when the gremlins began appearing. At first, there was the occasional freezing of the screen followed by the set powering on and off spontaneously. Over the course of two weeks, the television began doing this continuously and was unwatchable. The only way to stop the process was to unplug it. Samsung sent a repair service to fix the set and they replaced the main board. The set worked for under 12 hours before it began having the same issues again. Again Samsung sent the TV back for repairs and they again replaced the mainboard. On return of the set, the television worked for 8 hours before the problems began again. Samsung customer service finally issued a full refund for the set. The repair and return process from the onset of the problem took about two months. We have never owned a Samsung TV set before and unlikely to buy another set. I don't know if we just received a bad set but, it was not a good sign when the return freight shipper stated this is the 30th Samsung set of this type they've had to pickup and send back to Samsung.

content_643773337220(10): Pros:More apps for Samsung Smart TV Beautiful design The movies are amazing in this screen Cons:I don't have cons for this product is amazing The Bottom Line: In the current context, the game has won the Samsung. I recommend to you is amazing his compability
Applications of large content distributors come first or only Samsung. It is an objective fact: Yomvi, Spotify, Nubeox, Antena 3, among others, have chosen to appear first in the store of Samsung. In fact, just released in Yomvi Samsung and does not mind the short term, appear on the LG. This is the most important. Why have a smart tv underserved? For example, nearly two million subscribers to Canal + satellite (with free Yomvi) buy the device that allows them to view on-demand content to which they are subscribed. Therefore, the key market of smart tvs is in the software over the hardware. Something that Apple and Samsung have discovered and applied to their TVs. Two. Samsung has become the benchmark for innovation in smart tvs. The Samsung smart tvs iPhones are the television world. In this sense, Apple is planning to venture into this market but precisely the innovative capacity of Samsung is delaying the launch of Apple devices opposite the sofa. It is difficult to surprise when Samsung has introduced all sorts of apps and innovations (remote controls with touch control, gestures or voice communication, integrated camera, etc. ).

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Process exited after 70.39 seconds with return value 0
Press any key to continue . . .
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5. My discussion about the advantages of using priority queue for such a problem:

At first there are 42 documents in the folder of files and in these documents there are hundreds of words. We need to rank these documents according to given keyword. To handle such a huge amount of data we need to implement priority queue with binomial heaps. Because the processing of those datas which have different priorities can be easily arranged by the priority queues. If we implement priority queue with a sorted array and then we want to add a new value to the priority queue, this might take $O(n)$ time in worst case because we would have to shift down all the array elements to create a space for the new element that we added. The major advantage of using binomial heap is that we can add new values to it efficiently after initially constructing it. In the binomial heap insertion takes $O(\log n)$ time operation which is so much faster than the other implementation.