Readme

Steps to run:

1. Run the following command
   `$ source setup.sh`
   This builds the necessary object files to execute the program.

2. Open 3 terminals and run the following commands in 3 different terminals.
   `$ ./p1`   `$ ./p2`   `$ ./p3`

API's used:

1. **ftok()**:

   `key_t ftok(const char *path, int id);`

   a. is used to generate a unique key.

2. **shmget()**:
   `int shmget(key_t,size_tsize,int shmflg);`
   a. upon successful completion, shmget() returns an identifier for the shared memory segment

3. **shmat()**:
   `void *shmat(int shmid ,void *shmaddr ,int shmflg);`
   a. Before you can use a shared memory segment, you have to attach yourself to it using shmat(). shmid is shared memory id.
   b. shmaddr specifies specific address to use but we should set it to zero and OS will automatically choose the address.

4. **shmdt()**:
   `int shmdt(void *shmaddr).`
      a. When you're done with the shared memory segment, your program should detach itself from it using shmdt().

5. **shmctl()**:
   `shmctl(int shmid,IPC_RMID,NULL)`
      a. When you detach from shared memory,it is not destroyed.
      b. So, to destroy shmctl() is used.

Output:

```
_ source setup.sh
_ ./p1
Enter data:
ASDFsadkfjklasd@#$!@#73764
Written in memory in p1:ASDFsadkfjklasd@#$!@#73764
Strength of password is : Weak
_ ./p1
Enter data:
asdfjkhsd###############################!@#
Written in memory in p1:asdfjkhsd###############################!@#
Strength of password is : Strong

main* ~/Desktop/MohithKumarThummaluru_B180299CS/Q2          0.42
```

```
_ ./p2
Data Read from memory: ASDFsadkfjklasd@#$!@#73764 in p2
_ ./p2
Data Read from memory: asdfjkhsd###############################!@# in p2

main* ~/Desktop/MohithKumarThummaluru_B180299CS/Q2          0.44
```

```
_ ./p3
20
6
In p3 : al_num = 20 | spl_chr = 6
_ ./p3
9
34
In p3 : al_num = 9 | spl_chr = 34

main* ~/Desktop/MohithKumarThummaluru_B180299CS/Q2          0.43
```

[7] 0:zsh*   "blackHat" 12:12 03-Nov-20