

CSE244 System Programming

Final Project

In this project you are expected to implement “Mine” and “Miner”. They should have parameters as follows:

```
--mine -<directory1> -<directory2>..... -<directoryN>,  
--miner -<n> ,where n is the number of entities that miner wants to take.
```

- Each directory is composed of entities which are directories or files. Mine forms a list composed of known entities inside the current directories.
- Miner should take n entities from the mine (the list becomes smaller) and create a thread for each entity that is the type of file. Otherwise if the selected entity is a directory miner informs the newly found resource to the mine. The mine constructs a new list for this new resource.
- Miner should collect the words and # of occurrences, then go back to the mine and exchange for goods. He gets 10 gold coins for new words and 1 gold coin for words the mine already has got.
- Miner should maintain a log file for the following data :

```
--time of start,  
-- system (word) 5 times (# of occurrences) 5 coin (# of coin exchanged for the word),  
-- class (word) 5 times (# of occurrences) 5 coin (# of coin exchanged for the word),  
--time of stop,  
-- number of files that the miner worked on,  
--number of pending files.
```

- And the mine should maintain a log file for the following data :

```
-- # of served miners,  
-- # of gold coins given to each served miner,  
-- # of pending miners,  
-- # of currently working miners,  
--start times of served, pending and currently working mines,  
--stop time of served miners,  
--words and # of occurrences.
```

- If the mine is killed, mine also should log the time of collapse. Good Luck!