COP5615 DOS PROJECT

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- **Compilation and run configuration:**
  1. Navigate to the Project folder in Remote worker;
     cd RemoteWorker
     sbt run
  2. Navigate to the Server project folder;
     cd project1
     sbt run k
     sbt run k ip

     where k= number of zeros
              ip = remoteIP address

  3. Change the hostname appropriately in the application.conf file residing in RemoteWorker and project1

- **Size of the work unit:** It divides the amount of work amongst the workers created by the ConstructionManager. Whichever worker is available takes the work up and starts the bitcoin mining and rest of the time Master keeps mining for the bitcoins by itself if none of the workers are available.
  In this case; since the number of workers are constant the size of the work unit grows exponentially Big Oh (94^n).
  The best performance bitcoin is as follows:
  sthrm91S2;
  000000f38264f46af7b44384702a9796f8e1adda21786d0b31fb3f42eb562740

- **Result of running the program for k=4**
  Scala project1 4

```
caturn9a/.|      00005601c9cf7e648b59eebe63f6e14fe7703b68d2f14fe64fcc8fcdbc84c278
caturn9`^,,      0000567d5cb07beaeaee8605a224777fb1e43e152bfebeb8449536bdcfd630a8
caturn9`]]T      00003f86bd8d39847e6ccb992d07d496dc15147be823ab1985dd56756a94b03f
caturn9`Z}|      0000438fcce96ca12daf18a2de872b65561c2a292a905f6d1aba3dd28b86e22d
caturn9`x]G      0000321bb9dd6e77c9e20ef79ff5ccac363473539de30be697ef1511106bd7a1
caturn9`WD1      00001f66e111d3738f88d937c9cf556fbaf565b31fc5f28fa73261f0e91a55b6
caturn9`TBr      0000cdfc99e4e35e8fb2dfd4db520dda62e7f5e1614d4f893f2a1ff74b16b89c
caturn9a)RB      00001e6c65194ba506f5e11939492f79dcad963fb2d158d3120f5576470eabe2
caturn9`rpF      000036b6c181e9574dfd6bb3c58aec8180517a7f90b5fcf940755a224ec15a8d
caturn9a'mf      0000a6f0a848d46a758c7d06abda4ed8761f869aab968806d0f6853b95d30e91
caturn9u)Ih      00002716d7185558d84a0cb63164faf140c5f06e4492a87ac0856d83521adffa
caturn9ttfo      0000553f87c5392eaef8820297fbfb7f9c33cb9c1ab50a55a024bf247d904416
caturn9thn?      0000ba2d06eb8ccc9b301bcaeb0b5089fb3b5570b21c3e2f291f4a9aba297389
caturn9u#1U      0000022ca1a8618f29a45bb1f29775120f571905a210b60d5899392f74f5b7ac
caturn9u9=U      0000c4c7ed140c3fb6ccf129d576b40f100ddccf4e4ee1470112c11c7d91d41a
caturn9u4V|      0000295f7eba962489e12c264d5b70aa833a4fbe999c28346c62693b491cd005
caturn9u4?e      0000e5c3352a80afdba881a311ed087a8c9c88791d8f43875c31928b43cba9d0
caturn9t=6p      0000c6b2baa000b7e3908bd1fe3b04fa70e2c0cd3f24712065bca638c74267bf
caturn9t1S1      000056fd38d978411a246b5ba34480ae319d370a24684e39478d275703544318
caturn9t9Cc      00007afaa2d298395940c738c8a6d70637e052c7b270c31ee084f923388ba3da
caturn9t/t7      00009a8d33c77c88d41421622fcf0778ac5d81e3a141fff1551f324ce85673ec
caturn9t/ME      00003f8552e7cc2739219ffd44d541f1e471e4692ec5780ad634d37f17933f00
caturn9t5#R      000055a5ee1f26d6a224d09db922026387e277b7992cf654e923839ea94ab452
caturn9t^Pm      00009c1b3fb1833af2a68dafedb5651786b158f18060e7aff31bbeef77dfa162
caturn9tV+V      0000bcdc45dce7ce9a7830972360706af63c7a3758880d2748677f5b0be0df28
caturn9nv[t      00005d60c6b0ec59758d64018e242ed3c825f95dc4dae52b4eff4b65034a54e1
caturn9nhM|      00001a0848fe6f5df8661ba599c60cd65b7686c8f647f82a6736d55cdf5997bf
caturn9ne}G      00001332a8f945183cadd421d182bbadd41ac4aea97c9a289a7621840828c26e
caturn9n|i\      0000f1d98bb1953a789e19b6931c57db98aa7b9cb9560c5c3c60039c3e82a4c8
caturn9no(#      00009b4f3e233f492a977df72acc46abfc68df05c7ad2e3c0918103e2a493af2
```

- **Running time report for:**
  scala project1 5
  User time= 132.85u
  Kernel time= 2.13s
  CPU time= 134.98
  Real time= 20.81
  Number of cores= CPU time/Real time =134.98/20.81 =6.7 approximately 6 cores

- **Number of machines used:**
  3