COP 5615
PROJECT 1

README FILE

Group Members:

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1.The search space for mining bitcoins is a long string of random alphanumeric characters. This string is divided into smaller chunks of 5 characters prefixed with the gatorid – ‘siddharthphadnis’. The number of workers is determined by the number of processors in the machine (3/2 times number of processors) and they are assigned work in round robin fashion. The data is divided into smaller chunks rather than splitting it equally amongst all available actors (for proper load balancing)(Running time:A Loop goes from 1 to 100000 – this counter can be increased/decreased to control the duration for which the project runs.)

2.The result of running program for k-the number of leading zeros required as
Bitcoin : siddharthphadnisMz9tw
00001e5239eb59ce1215c0f0a02725b6deedd3b685527bb02ab0959e0e52cab3
Bitcoin : siddharthphadnisYDGWz
0000da853ca7caa4f53e9390e480a74128680f93ac089210c44f5204fe65432a

3.We observed that multiple actors run at the same time and so multiple cores were utilized.

4.Coin with maximum number of zeros (5 leading zeros):
Bitcoin : siddharthphadnisAsv16
a96140e2bf0cbf718c520a44cfd018798f010a4e5ff7f0bff1a9fa08bebe370d

5.Largest number of working machines: We were able to run on 2 machines.

Steps to execute:

This project submission includes a folder **PROJECT1_ Final** which has subfolders in it.
In order to run the program (using SBT), open 2 command prompt terminals.
In terminal 1, reach: **PROJECT1_Final\eclipseWorkspace\HelloLocal**
Type sbt run and hit enter.
In terminal 2, reach: **PROJECT1_Final\eclipseWorkspace\HelloRemote**
Type sbt run and hit enter.
All bitcoins mined from both - Server and Client will be displayed in 'Local.scala', the server. (Server has the capability to mine by itself even if client is not available).

- Update IP address of application.config present in HelloRemote folder to client machine's IP and update IP address in Local.scala file to client's IP address.

- Update IP address of application.config present in HelloLocal folder to server machine's IP and update IP address of HelloRemote.scala to server's IP address.

Source files:

1. Server : **Local.Scala**
Path: PROJECT1_Final\eclipseWorkspace\HelloLocal\src\main\scala\local\Local.scala

2. Client : **HelloRemote.scala**
Path:
PROJECT1_Final\eclipseWorkspace\HelloRemote\src\main\scala\remote\HelloRemote.scala