Project 1

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- The size of the work unit is taken as 128^12 in the code for best performance in implementation. The input string starts with the UFID (dmitra17;) followed by a secure random string function generated infinitely. In this way, there is almost no chance of repetition of input strings for different workers that is sent by the boss.

- The result of running the program for ./ project1 4 is as below:
  dmitra17;+EfE2T+SdKs=
  0000B72D23A8F0A89CFE05B748168B387BDFC0C26D3C4ACC19472215896329A8
  dmitra17;EzvvioNVwW8=
  0000244A2A6DE14591B1B5DA4F2199A8F9420DD6CCEC1B8460B5EA593CE22ABA
  dmitra17;qb51dymYMqM=
  0000320265A0C4A644B6FE9566A4C96108EEDA73E41F51AA9B55D2A69BB1F9D3
  dmitra17;tMYrP+F5iK8=
  0000F65EDBA7600FBA3343707E63DA906F340431134A81577FB141A28BFCE8CB
  dmitra17;Cf1AhmMONd8=
  0000F08226A93B2BD30F942E76787F71601334F59E065ED441F35490F3959667
  dmitra17;b7w9qVX1T00=
  000001FFAFC92B3A99B3B6D63232D6E953C5B2257A50EFFDB55708FB92E5FF10
  dmitra17;DNXrI2r/U/s=
  0000AE8810C4B7BC47AE146D2822E6537DAF67B54F3C1937BA5C7A7245931A14

- The ratio of CPU time to Real time is 3.503 for ./project1 5 (real 0m29.888s and user 1m44.696s) which is equal to 350.3% CPU utilization.

- The coin with the most 0s had 7 leading zeroes in it. The coin is –
  dmitra17;ZUIBHGTI598046
  00000006C82BE9B9A4668CD97031FD273E9EEF252020165394EF0E5681CA0769

- The largest number of working machines we can run the code is 4, server in one machine and workers in other 3 machines.