There are three code files.

* Password\_Decrypt.cpp 🡪 This is the main file for MPI which divides the master and slave processes.
* Password\_Crack.cpp 🡪 This file has the code which gets called by Password\_Decrypt.cpp to crack the password.
* Utility.cpp 🡪 This file contains utility functions and is called by Password\_Crack.cpp file.

Please refer to the code comments to understand the code.

**Follow the below steps to run the program:**

1. rlogin into: ssh [user@rlogin.cs.vt.edu](mailto:user@rlogin.cs.vt.edu)
2. Copy code files(listed above) and shadow.txt file to the remote desktop.
3. Add module mpi: module add mpi/openmpi-x86\_64
4. Compile the code using: mpic++ Password\_Decrypt.cpp -lcrypt -o cryptS -fopenmp
5. Run the code using: mpiexec -np 26 cryptS