

HPC / Parallel Processing- 2022

Assignment 1 – MPI

You have a list of students' ids with their exam grade at a course written in a file. Some of them will pass and some won't pass. This depends on their grades if the grade was greater than or equal 60 they will pass otherwise they will be asked to repeat the exam.

Master process (rank 0)

- Read data from file
- Divide the students list by the number of processes you have then send it to them.
- Print the summation of the number of passed students received from each process.

For each process

- Receive part of students data
- Check if they passed or not and print message for each student
 - <Student ID> Passed The Exam
 - <Student ID> Failed. Please Repeat The Exam
- Calculate number of passed student then send it to master process (rank 0)

File content example:

```
2018300 40
2018422 70
....
....
```

Console output example:

```
2018300 Failed. Please Repeat The Exam
2018422 Passed The Exam
....
....
Total Number of students passed the exam is 10 out of 15
```

Deadline & Submission:

1. The assignment is in groups of 2.
2. Code must be in C and using MPI & you must run it before sending.
3. Cheating could lead to serious consequences.
4. Late submission is not allowed.
5. Deadline: Thurs. 16/4/2022 11:59 PM

Grading Criteria :

Your code should be compiled without any errors or you will lose 50% of assignment grade, also the output of the run should be correct or you will lose 25% of the assignment grade.

Item	Points
Read data from file	2
Divide the data correctly	2
Print passed/failed	1
Mpi (send/recev)	4
Print passed count	1