ME5470: Introduction to Parallel Scientific Computing Homework-1

ME21BTECH11006

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Q1.

 Size of the ASCII array in disk = 336 MB

 Size of binary array in disk = 123 MB

Estimated size in memory $= \frac{8 \times 4000^2}{1024 \times 1024} = 122$ MB

Binary file type is better to save in the disk than ASCII type as it consumes less space.

Q2.

vec_000003_000001.in : Yes : -6.000000

vec_000003_000002.in : Yes : -6.000000

vec_000003_000003.in : Yes : -1.000000

vec_000003_000004.in : Not an eigenvector.

vec_000005_000001.in : Yes : 0.268098

vec_000005_000002.in : Not an eigenvector.

vec_000005_000003.in : Yes : 0.986875

vec_000005_000004.in : Yes : 1.399039

vec_000050_000001.in : Not an eigenvector.

vec_000050_000002.in : Yes : 0.479628

vec_000050_000003.in : Yes : 1.337887

vec_000050_000004.in : Not an eigenvector.

vec_000080_000001.in : Yes : 0.333018

vec_000080_000002.in : Yes : 0.493142

vec_000080_000003.in : Yes : 0.939275

vec_000080_000004.in : Not an eigenvector.