**Map Reduce Programming**

Map Reduce allocates components of value over the vertex in a Hadoop collection. The ambition is to diverge a data file into lumps and utilize an algorithm to function scraps at an identical period. Similar functioning on considerable apparatuses strongly advances the acceleration of managing forever petabytes of value.

## Task B.1

This project has been depends-on map-reducing programming that was successfully implemented in Java, Netbeans Software. In this project, there has been implemented student information like as “Student-id, name, grade, module, sex, age department in this Netbeans software.

Text, application

Description automatically generated

**Figure 1: Created a class for Student Database**

(Source: Self-Created)

Above this figure has been shown a class for Student Database. In this project, there has been implemented seven variables for this Student file. There has been chosen a different type of data type. In this portion, the constructor programming has been applied for calling Student class.

Graphical user interface, text, application

Description automatically generated

**Figure 2 : Created map-reduce programming for Student Database**

(Source: Self-Created)

This figure has been represented by map-reduce programming in Net beans Software. Above this figure has been shown the average marks whose student has got “A” grade marks in this project.

Text

Description automatically generated

**Figure 3 : Created a Student Database**

(Source: Self-Created)

This figure has been represented a Student Database in this Net Beans Software. Without the help of this Student Database page can not possible to implement map-reduce programming in the Net beans Software. The Student Database has been created within the proper id, name, age, sex, grade, a module of Students in this project. Map-reduce programming has been successfully done in this project.

## Task B.2

**Graphical user interface, text, application, email

Description automatically generated**

**Figure 4 :( Map-reduce programming)**

(Source: Self-Created)

Above this figure has been implementing map-reducing programming in this project. Map Reduce is the concept of programming example for processing considerable value groups with a similar, dispersed algorithm on the cluster. In this project, there map-reducing programming has been implemented for Student Database. The above picture describes the coding section for the map-reduce programming. In this section, print function has been used in order to display the summation of the values. However, these integer values have been taken from the arrey list that was already mentioned in this code.

Diagram

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**Figure 5: Map-reduce Algorithm**

(Source: Self-Created)

The key Value couple is the description commodity that the Map Reduce assignment designed for implementation (Jayaram *et al*. 2019). By insolvency; Record Reader operates "TextInputFormat" for restoring value into a key-value tandem. The key-value tandems developed via the mapper are called medium legends. This figure describes the process of map reduce. In addition, shuffling has been done in order to reduce the output of this process. Sorting and shuffling is the most important part of this map-reduce algorithm.

Graphical user interface, text, application

Description automatically generated

**Figure 6 : Output for Map-reduce programming**

(Source: Self-Created)

Above this figure, the average output of those students has been got marks in Grade of” A”. In this project, this output has been depend-on student database programming that has been successfully created in Net Beans software. There has been created some student information like id, name, department, grade, and marks in this project. This output has been base-on all of the “A” grade students.