

**COMPUTER SCIENCE**

### INVESTIGATORY PROJECT

#### Submitted for

*ALL INDIA SENIOR SCHOOL*

*CERTIFICATE EXAMINATION*

***2022-2023***



*STUDENT MARK ANALYSIS*

*Done By*

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# SUBMITTED TO THE DEPARTMENT OF

# COMPUTER SCIENCE

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**INTRODUCTION**

**Python** is a **computer programming language** used for many purposes such as website development, software, task automation, data analysis, etc. It is a **high-level programming language** that has English-like syntax. This makes it easier to read and understand the code. It is an **interpreted language** which means that Python directly executes the code line by line. In case of any error, it stops further execution and reports back the error which has occurred.

**Data management** is very well important. It involves collection of data and using it securely and productively. Managing the data collected and updating it time to time is very important. A **classroom-level data management system** helps teachers track each student’s performance. By examining the data plotted on each student’s progress monitoring graph, the teachers can determine whether students are making adequate progress.

We have done a project using Python class XII knowledge. It is going to be on “**Students Mark Analysis**”. It deals with more of the class XII concepts and also deals with Student Mark Management system in schools.

**OBJECTIVE**

The purpose of this project is to generate a **Mark Analysis for Class XII** students using Python programming language. Through this project, the teachers can execute various tasks like **searching**, **updating and deleting of marks scored** by each class XII student **in all the examinations**.

**Parents** of each student, **respective class teacher** of each class and **students** themselves will get the **overall report of the student’s performance including,** marks scored, individual subject marks, individual subject grade obtained, overall grade obtained, total marks obtained and percentage of marks. **Comparison will be made between** the marks scored by the student and with those of - marks secured by him/her in previous examination, class average and marks of the top 5 students of the same class. Rank obtained by each student will also be printed. Finally, it states whether the student has passed or failed in the current examination.

**MODULARIZATION APPROACH**

* + Database – This contains the information of all the Students and Teachers. This Module contains the Marks of the Students, the Attendance, their personal details, the username and password of Teachers and the sections handled by them.
  + Framework – This module is the heart of the program. It contains all the logics required to run the program. It contains the logics of logging in, creating and displaying graphs and report cards, editing and viewing marks of the students by Teachers.
  + Frontend – This module contains the coding for the GUI of the project. It renders the “Student Mark Analysis” application.

**SOFTWARE & HARDWARE REQUIREMENTS**

**Software Requirements:**

* + Python IDLE
  + Google Chrome & Microsoft Edge
  + Windows 10
  + Microsoft Word

**Hardware:**

* + Laptop
  + WIFI-Router
  + Printer

**WHY PYTHON?**

* Python is a computer programming language often used to **build websites and software**, **automate tasks** and **conduct data analysis**.
* It is a **general-purpose language**, meaning it can be used to create a variety of different programs and isn’t specialized for any specific problems.
* It has a **simple syntax** that mimics English language, so it’s easier to read and understand. This makes it quicker to build projects, and faster to improve them.
* It’s **open source**, which means it’s free to use and distribute.
* Python has a **large and active community** that contributes to Python’s pool of modules and libraries and acts as a helpful resource for other programmers.
* Python can be used by relative beginners very easily.
* It is very **versatile** and **beginner-friendly**.
* It can also be used to **automate simple tasks** on the computer.

**PROGRAM CODE**

**Database.py:**

import pickle

#The Marks are Out of 100

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"harley sumesh":{"Midterm-1":(100,76,75,65,61), "Terminal-1":(59,57,50,79,57), "Midterm-2":(45,36,50,89,41), "Terminal-2":(43,50,57,75,74)},

"karthikeya airpirala":{"Midterm-1":(41,78,78,69,66), "Terminal-1":(64,61,53,81,58), "Midterm-2":(47,41,54,87,45), "Terminal-2":(45,54,62,80,75)},

"kaushik gautham":{"Midterm-1":(64,80,80,70,68), "Terminal-1":(69,63,56,83,59), "Midterm-2":(49,43,58,85,49), "Terminal-2":(47,56,65,82,76)},

"kavin raj":{"Midterm-1":(35,82,83,74,73), "Terminal-1":(74,67,59,85,60), "Midterm-2":(51,48,62,83,53), "Terminal-2":(49,60,31,87,77)},

"kevin raj":{"Midterm-1":(69,84,85,75,75), "Terminal-1":(79,71,62,34,61), "Midterm-2":(53,50,66,81,57), "Terminal-2":(51,64,33,89,78)},

"muhammad shayaan":{"Midterm-1":(92,86,87,76,77), "Terminal-1":(81,73,65,36,62), "Midterm-2":(55,52,70,79,61), "Terminal-2":(53,66,36,93,79)},

"padmesh prasadh":{"Midterm-1":(76,88,89,77,79), "Terminal-1":(86,77,68,38,63), "Midterm-2":(57,54,74,77,65), "Terminal-2":(55,70,38,95,80)},

"pravinesh ramprasad":{"Midterm-1":(89,90,91,78,81), "Terminal-1":(45,79,71,40,64), "Midterm-2":(59,56,78,75,69), "Terminal-2":(57,72,41,99,81)},

"rahul ganesh":{"Midterm-1":(80,92,94,82,86), "Terminal-1":(50,83,74,42,65), "Midterm-2":(61,31,82,73,73), "Terminal-2":(59,76,43,91,82)},

"rajan":{"Midterm-1":(24,94,96,83,88), "Terminal-1":(45,87,77,44,66), "Midterm-2":(63,33,86,71,77), "Terminal-2":(61,80,45,93,83)},

"rajesh sukuram":{"Midterm-1":(27,96,98,84,90), "Terminal-1":(50,89,80,46,67), "Midterm-2":(65,35,90,69,81), "Terminal-2":(63,82,48,87,84)},

"sabaresh sudhakar":{"Midterm-1":(81,32,63,45,31), "Terminal-1":(55,93,83,48,68), "Midterm-2":(67,37,94,67,85), "Terminal-2":(65,86,50,99,85)},

"sai samuel":{"Midterm-1":(32,34,66,49,36), "Terminal-1":(60,97,86,50,69), "Midterm-2":(69,42,98,65,89), "Terminal-2":(31,90,55,84,86)},

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"sundar raman":{"Midterm-1":(39,38,70,51,40), "Terminal-1":(70,73,92,54,71), "Midterm-2":(73,46,86,61,97), "Terminal-2":(35,96,60,88,88)},

"aarthi":{"Midterm-1":(78,40,72,52,42), "Terminal-1":(72,68,95,56,72), "Midterm-2":(74,48,80,59,100), "Terminal-2":(38,98,45,82,89)},

"aiswarya rani":{"Midterm-1":(82,42,74,53,44), "Terminal-1":(74,70,98,58,73), "Midterm-2":(75,50,24,57,95), "Terminal-2":(41,100,49,96,90)},

"amirtha varshini":{"Midterm-1":(46,44,76,54,46), "Terminal-1":(79,74,61,60,74), "Midterm-2":(77,52,58,55,34), "Terminal-2":(43,100,51,88,91)},

"avanthika":{"Midterm-1":(50,46,78,55,48), "Terminal-1":(81,76,64,62,75), "Midterm-2":(78,54,42,53,38), "Terminal-2":(46,84,55,45,45)},

"brighty salomi":{"Midterm-1":(51,48,81,59,53), "Terminal-1":(86,80,67,64,76), "Midterm-2":(80,59,96,51,42), "Terminal-2":(51,19,60,50,45)},

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"hamsadhwani":{"Midterm-1":(64,56,63,66,64), "Terminal-1":(100,92,36,72,80), "Midterm-2":(86,70,56,43,58), "Terminal-2":(64,98,75,65,49)},

"hannah sumesh":{"Midterm-1":(67,58,65,67,66), "Terminal-1":(54,94,39,74,81), "Midterm-2":(88,72,60,41,62), "Terminal-2":(67,40,78,69,50)},

"harini raj":{"Midterm-1":(71,60,67,68,68), "Terminal-1":(74,96,42,76,82), "Midterm-2":(89,74,64,39,66), "Terminal-2":(70,65,82,73,51)},

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"keren david":{"Midterm-1":(47,64,72,73,75), "Terminal-1":(91,47,48,80,84), "Midterm-2":(92,81,72,35,49), "Terminal-2":(75,88,44,31,53)},

"madhumitha":{"Midterm-1":(91,66,74,74,77), "Terminal-1":(67,79,51,82,85), "Midterm-2":(93,83,76,33,53), "Terminal-2":(78,30,65,56,54)},

"monika sagar":{"Midterm-1":(92,68,77,78,82), "Terminal-1":(68,83,54,84,86), "Midterm-2":(95,88,80,31,57), "Terminal-2":(80,34,67,61,55)},

"nithya":{"Midterm-1":(23,70,79,79,84), "Terminal-1":(20,84,52,86,87), "Midterm-2":(96,90,84,29,61), "Terminal-2":(45,36,78,89,56)},

"preyanka shankar":{"Midterm-1":(27,72,81,80,86), "Terminal-1":(25,46,55,88,88), "Midterm-2":(98,92,88,27,65), "Terminal-2":(47,40,80,91,57)},

"rajeswari narayanan":{"Midterm-1":(30,74,83,81,88), "Terminal-1":(90,48,58,90,89), "Midterm-2":(100,94,92,25,69), "Terminal-2":(50,42,83,95,58)},

"soundarya rajan":{"Midterm-1":(34,76,85,82,90), "Terminal-1":(29,50,61,92,90), "Midterm-2":(71,96,96,23,73), "Terminal-2":(45,44,92,99,59)},

"sowmya sri":{"Midterm-1":(38,78,87,83,92), "Terminal-1":(34,54,64,94,91), "Midterm-2":(53,98,100,21,77), "Terminal-2":(47,48,94,91,60)},

"varsha":{"Midterm-1":(91,80,89,84,94), "Terminal-1":(39,58,67,96,92), "Midterm-2":(85,100,84,19,81), "Terminal-2":(49,50,96,93,61)}

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"arvin samuel":{"Midterm-1":(99,94,92,97,100), "Terminal-1":(90,91,96,100,92), "Midterm-2":(93,94,99,90,95), "Terminal-2":(90,91,99,94,95)},

"benedict raj":{"Midterm-1":(89,83,79,90,88), "Terminal-1":(91,67,71,77,60), "Midterm-2":(81,86,92,98,100), "Terminal-2":(100,94,88,82,91)},

"chandru":{"Midterm-1":(77,60,91,54,97), "Terminal-1":(88,51,64,72,50), "Midterm-2":(74,92,60,76,62), "Terminal-2":(78,43,79,90,65)},

"daniel anto benjamine":{"Midterm-1":(82,56,69,42,98), "Terminal-1":(66,88,54,89,45), "Midterm-2":(41,56,61,67,55), "Terminal-2":(81,55,87,65,78)},

"elton craig samson":{"Midterm-1":(89,90,78,84,81), "Terminal-1":(48,77,65,62,78), "Midterm-2":(91,47,87,65,96), "Terminal-2":(78,100,89,65,77)},

"ezhil adhithya":{"Midterm-1":(94,95,98,92,90), "Terminal-1":(90,92,95,91,100), "Midterm-2":(91,95,91,96,99), "Terminal-2":(100,98,97,100,98)},

"ivaniel joshua":{"Midterm-1":(71,90,88,64,77), "Terminal-1":(68,90,55,89,91), "Midterm-2":(34,67,75,81,45), "Terminal-2":(96,57,49,90,88)},

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"sanjay":{"Midterm-1":(67,50,100,74,43), "Terminal-1":(75,82,75,49,89), "Midterm-2":(54,67,87,56,97), "Terminal-2":(95,92,90,92,89)},

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"tarunkumar":{"Midterm-1":(39,40,58,94,61), "Terminal-1":(67,89,65,90,49), "Midterm-2":(50,67,60,36,99), "Terminal-2":(86,44,71,67,52)},

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"aparnashree":{"Midterm-1":(80,79,57,89,52), "Terminal-1":(93,90,92,99,96), "Midterm-2":(89,81,67,91,76), "Terminal-2":(90,96,83,79,51)},

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"bharathi":{"Midterm-1":(89,56,67,34,80), "Terminal-1":(79,82,90,95,100), "Midterm-2":(90,98,67,47,81), "Terminal-2":(90,87,33,46,79)},

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"jeeva shree":{"Midterm-1":(79,62,84,92,47), "Terminal-1":(65,72,57,60,69), "Midterm-2":(80,45,33,69,90), "Terminal-2":(91,77,85,94,50)},

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"jenewar sarah singh":{"Midterm-1":(67,78,100,83,33), "Terminal-1":(39,47,87,90,79), "Midterm-2":(69,33,76,99,45), "Terminal-2":(94,79,82,33,92)},

"jyotsna":{"Midterm-1":(78,89,65,89,33), "Terminal-1":(56,89,90,99,78), "Midterm-2":(89,78,33,71,80), "Terminal-2":(33,67,89,57,90)},

"kandiz solita":{"Midterm-1":(56,79,41,33,90), "Terminal-1":(80,78,35,67,51), "Midterm-2":(89,90,71,35,60), "Terminal-2":(67,33,56,90,49)},

"kavya":{"Midterm-1":(91,98,94,96,67), "Terminal-1":(87,97,93,90,80), "Midterm-2":(86,82,90,94,75), "Terminal-2":(67,49,50,95,100)},

"leena":{"Midterm-1":(89,67,90,95,48), "Terminal-1":(79,75,80,33,100), "Midterm-2":(96,90,92,97,67), "Terminal-2":(79,90,49,84,60)},

"meher fathima":{"Midterm-1":(79,85,71,70,89), "Terminal-1":(90,95,96,58,71), "Midterm-2":(67,94,95,92,89), "Terminal-2":(60,33,57,83,45)},

"mohita":{"Midterm-1":(69,33,100,77,82), "Terminal-1":(82,100,73,90,33), "Midterm-2":(67,88,90,97,100), "Terminal-2":(37,35,89,100,47)},

"pon leela percy":{"Midterm-1":(67,78,90,34,49), "Terminal-1":(45,100,35,75,60), "Midterm-2":(60,98,100,47,33), "Terminal-2":(67,85,100,98,40)},

"shalini":{"Midterm-1":(39,78,90,45,100), "Terminal-1":(100,49,67,89,42), "Midterm-2":(89,94,78,90,100), "Terminal-2":(100,47,89,39,50)},

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"sindhuja":{"Midterm-1":(46,78,67,100,78), "Terminal-1":(97,100,87,90,89), "Midterm-2":(87,89,100,67,79), "Terminal-2":(78,90,46,89,97)}

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"ben laurie":{"Midterm-1":(56,21,13,62,10), "Terminal-1":(21,50,25,40,15), "Midterm-2":(45,25,24,52,26), "Terminal-2":(51,61,43,57,53)},

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"francis xavier":{"Midterm-1":(11,36,28,25,38), "Terminal-1":(28,34,31,38,36), "Midterm-2":(22,21,17,29,10), "Terminal-2":(32,21,17,12,22)},

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"swathi":{"DOB":(31,7,2005),"Phone":"8882787460"},

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"dan christ":{"DOB":(5,2,2005),"Phone":"9281237475"},

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"finn gates":{"Midterm-1":(50,50),"Terminal-1":(44,50),"Midterm-2":(46,50),"Terminal-2":(37,50)},

"grim roger":{"Midterm-1":(45,50),"Terminal-1":(24,50),"Midterm-2":(30,50),"Terminal-2":(49,50)},

"henderson fox":{"Midterm-1":(34,50),"Terminal-1":(42,50),"Midterm-2":(39,50),"Terminal-2":(38,50)},

"ivin grem":{"Midterm-1":(22,50),"Terminal-1":(44,50),"Midterm-2":(41,50),"Terminal-2":(41,50)},

"jack dorsen":{"Midterm-1":(42,50),"Terminal-1":(33,50),"Midterm-2":(26,50),"Terminal-2":(31,50)},

"kremlin kallus":{"Midterm-1":(32,50),"Terminal-1":(47,50),"Midterm-2":(22,50),"Terminal-2":(46,50)},

"lawson lewis":{"Midterm-1":(34,50),"Terminal-1":(30,50),"Midterm-2":(27,50),"Terminal-2":(40,50)},

"martin watts":{"Midterm-1":(22,50),"Terminal-1":(31,50),"Midterm-2":(45,50),"Terminal-2":(34,50)},

"newland warner":{"Midterm-1":(44,50),"Terminal-1":(50,50),"Midterm-2":(49,50),"Terminal-2":(41,50)},

"orlean cook":{"Midterm-1":(21,50),"Terminal-1":(30,50),"Midterm-2":(35,50),"Terminal-2":(21,50)},

"peter yottam":{"Midterm-1":(49,50),"Terminal-1":(34,50),"Midterm-2":(21,50),"Terminal-2":(32,50)},

"quinton joshua":{"Midterm-1":(29,50),"Terminal-1":(34,50),"Midterm-2":(22,50),"Terminal-2":(45,50)},

"rambo jackson":{"Midterm-1":(39,50),"Terminal-1":(39,50),"Midterm-2":(30,50),"Terminal-2":(47,50)},

"stuart harley":{"Midterm-1":(50,50),"Terminal-1":(42,50),"Midterm-2":(47,50),"Terminal-2":(32,50)},

"tom alstair":{"Midterm-1":(49,50),"Terminal-1":(45,50),"Midterm-2":(41,50),"Terminal-2":(43,50)},

"angelina bramwell":{"Midterm-1":(46,50),"Terminal-1":(33,50),"Midterm-2":(43,50),"Terminal-2":(25,50)},

"bell rhode":{"Midterm-1":(37,50),"Terminal-1":(37,50),"Midterm-2":(46,50),"Terminal-2":(49,50)},

"christine puglisi":{"Midterm-1":(50,50),"Terminal-1":(34,50),"Midterm-2":(21,50),"Terminal-2":(45,50)},

"duerre watson":{"Midterm-1":(37,50),"Terminal-1":(45,50),"Midterm-2":(43,50),"Terminal-2":(29,50)},

"emma charlotte":{"Midterm-1":(30,50),"Terminal-1":(30,50),"Midterm-2":(20,50),"Terminal-2":(37,50)},

"francis red":{"Midterm-1":(40,50),"Terminal-1":(42,50),"Midterm-2":(49,50),"Terminal-2":(29,50)},

"gatsby joe":{"Midterm-1":(39,50),"Terminal-1":(38,50),"Midterm-2":(40,50),"Terminal-2":(41,50)},

"holly graf":{"Midterm-1":(28,50),"Terminal-1":(32,50),"Midterm-2":(38,50),"Terminal-2":(29,50)},

"sofia samuel":{"Midterm-1":(48,50),"Terminal-1":(21,50),"Midterm-2":(33,50),"Terminal-2":(37,50)},

"julie orchard":{"Midterm-1":(40,50),"Terminal-1":(29,50),"Midterm-2":(48,50),"Terminal-2":(27,50)},

"kate brownwell":{"Midterm-1":(29,50),"Terminal-1":(24,50),"Midterm-2":(31,50),"Terminal-2":(42,50)},

"larson brown":{"Midterm-1":(34,50),"Terminal-1":(24,50),"Midterm-2":(25,50),"Terminal-2":(28,50)},

"marie joseph":{"Midterm-1":(24,50),"Terminal-1":(37,50),"Midterm-2":(27,50),"Terminal-2":(46,50)},

"oleson jinn":{"Midterm-1":(25,50),"Terminal-1":(32,50),"Midterm-2":(46,50),"Terminal-2":(32,50)},

"penrose walter":{"Midterm-1":(46,50),"Terminal-1":(47,50),"Midterm-2":(48,50),"Terminal-2":(26,50)},

"rosetta park":{"Midterm-1":(38,50),"Terminal-1":(49,50),"Midterm-2":(47,50),"Terminal-2":(37,50)},

"scarlett richard":{"Midterm-1":(39,50),"Terminal-1":(40,50),"Midterm-2":(36,50),"Terminal-2":(37,50)},

"thebe kells":{"Midterm-1":(50,50),"Terminal-1":(21,50),"Midterm-2":(24,50),"Terminal-2":(28,50)},

"yolin goldie":{"Midterm-1":(39,50),"Terminal-1":(27,50),"Midterm-2":(41,50),"Terminal-2":(39,50)},

"zara hunter":{"Midterm-1":(24,50),"Terminal-1":(23,50),"Midterm-2":(47,50),"Terminal-2":(20,50)},

}

Teachers={"Swarup":("Gnana Swarup","Agniforever",("A","B"),"Physics"),

"Vijayan":("Vijayan","vijay@134",("A","B"),"Maths","CT"),

"Aravinth":("Aravinth Kalyani","AraKal90",("A","B"),"Chemistry","CT"),

"Elsa":("Elsa Packiam","elsa@93",("C","D"),"English"),

"Gemcy":("Gemcy Ebenezer","Gemeb@112",("B",),"Biology","CT"),

"Shiny":("Shiny Boaz","shinythebest",("A","B"),"English"),

"Sabina":("Sabina Begum","sab@45\_9",("A",),"Computer Science"),

"Mehtab":("Mehtab","mehtab3000",("C",),"Accountancy"),

"Mary":("Mary Louis","marylovesgod",("C",),"Entrepreneurship"),

"Monica":("Monica Samuel","monica1974",("C","D"),"Economics","CT"),

"Deepika":("Deepika","Deepikapassionforlife",("C","D"),"Business Studies"),

"Ellmona":("Ellmona Joean","EllShawn123#",("D",),"History"),

"Justin":("Justin Selvaraj","justin6798^",("D",),"Geography")

}

Class\_Teachers={"A":"Gemcy Ebenezer",

"B":"Aravinth Kalyani",

"C":"Vijayan",

"D":"Monica Samuel"

}

Sub={"A":("English", "Physics", "Chemistry", "Mathematics", "Biology"),

"B":("English", "Physics", "Chemistry", "Mathematics", "Computer Science"),

"C":("English", "Accountancy", "Entrepreneurship","Economics", "Business Studies"),

"D":("English", "History", "Geography", "Economics", "Buissness Studies")

}

def Write():

File=open("Data.bin", "wb")

pickle.dump(Marks\_A, File)

pickle.dump(Marks\_B, File)

pickle.dump(Marks\_C, File)

pickle.dump(Marks\_D, File)

pickle.dump(Details\_A, File)

pickle.dump(Details\_B, File)

pickle.dump(Details\_C, File)

pickle.dump(Details\_D, File)

pickle.dump(Attendance\_A, File)

pickle.dump(Attendance\_B, File)

pickle.dump(Attendance\_C, File)

pickle.dump(Attendance\_D, File)

pickle.dump(Teachers, File)

pickle.dump(Class\_Teachers, File)

pickle.dump(Sub, File)

File.close()

Write()

**Framework.py:**

import pickle

import numpy as np

import plotly.graph\_objects as go

import plotly.offline as pyo

import plotly.express as px

import pandas as pd

from jinja2 import Environment, FileSystemLoader

import webbrowser

from PIL import Image

from copy import deepcopy

File=open("Data.bin", "rb")

Marks\_A=pickle.load(File)

Marks\_B=pickle.load(File)

Marks\_C=pickle.load(File)

Marks\_D=pickle.load(File)

Details\_A=pickle.load(File)

Details\_B=pickle.load(File)

Details\_C=pickle.load(File)

Details\_D=pickle.load(File)

Attendance\_A=pickle.load(File)

Attendance\_B=pickle.load(File)

Attendance\_C=pickle.load(File)

Attendance\_D=pickle.load(File)

Teachers=pickle.load(File)

Class\_Teachers=pickle.load(File)

Sub=pickle.load(File)

File.close()

class Student:

def \_\_init\_\_(self, Student\_Name):

global \_Name

def Total():

self.Total={}

for i in self.Marks:

Dup={}

for j in self.Marks[i]:

try:

Dup[j]=sum(self.Marks[i][j])

except:

pass

self.Total[i]=Dup

del self.Total["Section"]

\_Name=Student\_Name

self.Name=Student\_Name

if self.Name in Marks\_A:

self.Marks=Marks\_A

Total()

self.Details=Details\_A

self.Attend=Attendance\_A

self.Sec=self.Marks["Section"]

self.Login\_S=True

elif self.Name in Marks\_B:

self.Marks=Marks\_B

Total()

self.Details=Details\_B

self.Attend=Attendance\_B

self.Sec=self.Marks["Section"]

self.Login\_S=True

elif self.Name in Marks\_C:

self.Marks=Marks\_C

Total()

self.Details=Details\_C

self.Attend=Attendance\_C

self.Sec=self.Marks["Section"]

self.Login\_S=True

elif self.Name in Marks\_D:

self.Marks=Marks\_D

Total()

self.Details=Details\_D

self.Attend=Attendance\_D

self.Sec=self.Marks["Section"]

self.Login\_S=True

else:

self.Login\_S=False

def Login(self, DOB, Phone):

global Login\_S

self.Dob=DOB

self.Phone\_No=Phone

if self.Login\_S:

if self.Dob==self.Details[self.Name]["DOB"] and avdcccxself.Phone\_No==self.Details[self.Name]["Phone"]:

Login\_S=True

else:

Login\_S=False

else:

Login\_S=False

def Exam(self, Exam):

self.Exam=Exam

def Percentage(self):

Total\_Mark=self.Total[self.Name][self.Exam]

self.Percent=round((Total\_Mark/500)\*100, 2)

def Rank(self):

Ranking=[]

Ranks=[]

Num=1

for i in self.Total:

Ranking.append((i,self.Total[i][self.Exam]))

Ranks.append([Num])

Num+=1

Ranking=np.array(Ranking)

Ranking=sorted(Ranking, key=lambda x:x[1], reverse=True)

Ranking=np.concatenate((Ranking,Ranks), axis=1)

Var=[0,0,0]

for j in Ranking:

if j[1]==Var[1]:

Ranking[(int(j[2])-1),2]=Var[2]

else:

Var=j

for k in Ranking:

if self.Name in k:

self.Rank\_Info=k

def Attendance(self):

self.Atten=self.Attend[self.Name][self.Exam]

self.Atten\_Percent=round((self.Atten[0]/self.Atten[1])\*100,2)

def Grade(self):

Subject\_Marks=self.Marks[self.Name][self.Exam]

self.Grade=()

for x in Subject\_Marks:

if 90<x<=100:

self.Grade+=("A1",)

elif 80<x<=90:

self.Grade+=("A2",)

elif 70<x<=80:

self.Grade+=("B1",)

elif 60<x<=70:

self.Grade+=("B2",)

elif 50<x<=60:

self.Grade+=("C1",)

elif 40<x<=50:

self.Grade+=("C2",)

elif 33<x<=40:

self.Grade+=("D",)

else:

self.Grade+=("E",)

def Report\_Card(self):

Student.Grade(self)

Student.Attendance(self)

Student.Percentage(self)

Student.Rank(self)

Report=[{}]

Report[0]["Exam"]=self.Exam

Report[0]["Name"]=self.Name.title()

Report[0]["Sec"]=self.Sec

Report[0]["Teacher"]=Class\_Teachers[self.Sec]

Report[0]["Date"]=self.Details[self.Name]["DOB"][0]

Report[0]["Month"]=self.Details[self.Name]["DOB"][1]

Report[0]["Year"]=self.Details[self.Name]["DOB"][2]

Report[0]["Subject"]=Sub[self.Sec]

Report[0]["Marks"]=self.Marks[self.Name][self.Exam]

Report[0]["Grade"]=self.Grade

Report[0]["Total"]=self.Total[self.Name][self.Exam]

Report[0]["Percent"]=self.Percent

Report[0]["Rank"]=self.Rank\_Info[2]

Report[0]["Atten"]=self.Atten

Report[0]["Atten\_Percent"]=self.Atten\_Percent

Report=list(Report)

file\_loader = FileSystemLoader(r'C:\Users\dell\OneDrive\Desktop\IP\2022-2023\CSc IP')

env = Environment(loader=file\_loader)

template = env.get\_template('Report\_Card.html')

output = template.render(content=Report)

file=open('Report.html', 'w')

file.write(output)

file.close()

webbrowser.open('Report.html')

def Total\_Bar(self):

Data={"Total":[self.Total[self.Name]["Midterm-1"],self.Total[self.Name]["Terminal-avdc1"],self.Total[self.Name]["Midterm-2"],self.Total[self.Name]["Terminal-2"]]}

Df=pd.DataFrame(Data, index=["Midterm-1", "Terminal-1", "Midterm-2", "Terminal-2"])

TotalBar=px.bar(Df,title="Total Marks of across all Examinations of " + self.Name.title(), avdc text\_auto=True)

TotalBar.show()

def Overall\_Radar(self):

Subjects=np.array(Sub[self.Sec])

Subjects=np.array([\*Subjects, Subjects[0]])

Midterm\_1=np.array(self.Marks[self.Name]["Midterm-1"])

Terminal\_1=np.array(self.Marks[self.Name]["Terminal-1"])

Midterm\_2=np.array(self.Marks[self.Name]["Midterm-2"])

Terminal\_2=np.array(self.Marks[self.Name]["Terminal-2"])

Midterm\_1=np.array([\*Midterm\_1, Midterm\_1[0]])

Terminal\_1=np.array([\*Terminal\_1, Terminal\_1[0]])

Midterm\_2=np.array([\*Midterm\_2, Midterm\_2[0]])

Terminal\_2=np.array([\*Terminal\_2, Terminal\_2[0]])

Radar=go.Figure(

data=[go.Scatterpolar(r=Midterm\_1, theta=Subjects, fill='toself', name="Midterm-1"),

go.Scatterpolar(r=Terminal\_1, theta=Subjects, fill='toself', name="Terminal-1"),

go.Scatterpolar(r=Midterm\_2, theta=Subjects, fill='toself', name="Midterm-2"),

go.Scatterpolar(r=Terminal\_2, theta=Subjects, fill='toself', name="Terminal-2")],

layout=go.Layout(title=go.layout.Title(text="Overall Marks Comparison of " + avdc avdasscself.Name.title() + " in the Academic Year 2022-23"), polar={"radialaxis": {"visible": avdcas True}}, showlegend=True)

)

Radar.show()

def Pie\_Marks\_Distribution(self):

All\_Marks=self.Marks[self.Name]["Midterm-1"] + self.Marks[self.Name]["Terminal-1"] avdc + self.Marks[self.Name]["Midterm-2"] + self.Marks[self.Name]["Terminal-2"]

Lower\_Limit=[0,10,20,30,40,50,60,70,80,90]

Max=100

Var1=np.histogram(All\_Marks, Lower\_Limit+[Max])[0]

Var2=[]

Var3=["0-10","10-20","20-30","30-40","40-50","50-60","60-70","70-80","80-90","90- avdc 100"]

for x in Var1:

x=(x/20)\*100

Var2+=[x]

Distribution=[]

Class\_Intervals=[]

Counter=0

while Counter<len(Var2):

if Var2[Counter]>0:

Distribution.append(Var2[Counter])

Class\_Intervals.append(Var3[Counter])

Counter+=1

Distribution=Distribution[::-1]

Class\_Intervals=Class\_Intervals[::-1]

Data={"Distribution":Distribution,

"Class\_Intervals":Class\_Intervals}

Df=pd.DataFrame(Data)

Pie=px.pie(Df, title="Marks Distribution of " + self.Name.title(), values="Distribution", avdcnames="Class\_Intervals")

Pie.update\_traces(textposition='inside', textinfo='percent+label')

Pie.show()

def Subject\_Bar(self):

Data={"Midterm-1":self.Marks[self.Name]["Midterm-1"],

"Terminal-1":self.Marks[self.Name]["Terminal-1"],

"Midterm-2":self.Marks[self.Name]["Midterm-2"],

"Terminal-2":self.Marks[self.Name]["Terminal-2"]}

Df=pd.DataFrame(Data, index=Sub[self.Sec])

Bar=px.bar(Df, x=["Midterm-1","Terminal-1","Midterm-2","Terminal-2"], avdc avdc avdc avdc y=Sub[self.Sec], title="Total Marks of Each Subject of " + self.Name.title(), avdc avdc avdc text\_auto=True, barmode='group')

Bar.show()

class Teacher:

def \_\_init\_\_(self, Username, Password):

global Login\_T

global Login\_CT

global User

User=Username

self.Teachers=Teachers

if Username in self.Teachers and Password==self.Teachers[Username][1]:

Login\_T=True

if self.Teachers[Username][-1]=="CT":

Login\_CT=True

else:

Login\_CT=False

else:

Login\_T=False

Login\_CT=False

class ST:

def \_\_init\_\_(self, Section):

global MARK1

self.Teachers=Teachers

self.Sub=Sub

self.Sec=Section

self.Class=self.Teachers[User][2]

self.Subject=self.Teachers[User][3]

self.Index=self.Sub[Section].index(self.Subject)

if Marks\_A["Section"]==self.Sec:

self.Marks=Marks\_A

elif Marks\_B["Section"]==self.Sec:

self.Marks=Marks\_B

elif Marks\_C["Section"]==self.Sec:

self.Marks=Marks\_C

else:

self.Marks=Marks\_D

MARK1=self.Marks

def Edit(self, Name, Exam, New\_Marks):

global Mistake1

if 0<=New\_Marks<=100:

self.Marks[Name][Exam]=list(self.Marks[Name][Exam])

self.Marks[Name][Exam][self.Index]=New\_Marks

self.Marks[Name][Exam]=tuple(self.Marks[Name][Exam])

Mistake1=False

else:

Mistake1=True

def View(self, Name, Exam):

global Marks

Marks=self.Marks[Name][Exam][self.Index]

class CT:

def \_\_init\_\_(self):

global MARK2

global Subjects

CT\_Name=Teachers[User][0]

for x in Class\_Teachers:

if Class\_Teachers[x]==CT\_Name:

self.Sec=x

if Marks\_A["Section"]==self.Sec:

self.Marks=Marks\_A

elif Marks\_B["Section"]==self.Sec:

self.Marks=Marks\_B

elif Marks\_C["Section"]==self.Sec:

self.Marks=Marks\_C

else:

self.Marks=Marks\_D

MARK2=self.Marks

Subjects=Sub[self.Sec]

def Edit(self, Name, Exam, Subject, New\_Marks):

global Mistake2

self.Index=Sub[self.Sec].index(Subject)

if 0<=New\_Marks<=100:

self.Marks[Name][Exam]=list(self.Marks[Name][Exam])

self.Marks[Name][Exam][self.Index]=New\_Marks

self.Marks[Name][Exam]=tuple(self.Marks[Name][Exam])

Mistake2=False

else:

Mistake2=True

def View(self, Name, Exam, Subject):

global Marks

self.Index=Sub[self.Sec].index(Subject)

Marks=self.Marks[Name][Exam][self.Index]

class Update():

def \_\_init\_\_(self):

File=open("Data.bin", "wb")

pickle.dump(Marks\_A, File)

pickle.dump(Marks\_B, File)

pickle.dump(Marks\_C, File)

pickle.dump(Marks\_D, File)

pickle.dump(Details\_A, File)

pickle.dump(Details\_B, File)

pickle.dump(Details\_C, File)

pickle.dump(Details\_D, File)

pickle.dump(Attendance\_A, File)

pickle.dump(Attendance\_B, File)

pickle.dump(Attendance\_C, File)

pickle.dump(Attendance\_D, File)

pickle.dump(Teachers, File)

pickle.dump(Class\_Teachers, File)

pickle.dump(Sub, File)

File.close()

**Frontend.py:**

import Framework

import tkinter

from tkinter import \*

from tkinter.ttk import \*

from tkinter import messagebox

from PIL import Image,ImageTk

def Closing():

if messagebox.askokcancel("Quit", "You are about to Quit Student Mark Analysis asApplication"):

Obj=Framework.Update()

SMA.destroy()

SMA=Tk()

SMA.title("Student Mark Analysis")

SMA.configure(background="white")

SMA.state("zoomed")

SMA.protocol("WM\_DELETE\_WINDOW", Closing)

SMA.resizable(False, False)

global Stu\_Obj

global CT\_Obj

global ST\_Obj

global \_Name

global User

Home=tkinter.Frame(SMA)

Home.pack(fill=BOTH, expand=True)

def Next():

Home.forget()

Obj=Page1()

Home.configure(background="white")

Home.columnconfigure(0, weight=1)

Home.columnconfigure(1, weight=1)

Home.columnconfigure(2, weight=1)

School\_Logo=PhotoImage(file="School\_Logo.png")

Logo=Label(Home, image = School\_Logo, relief="solid")

Text1=Label(Home, text="Student Mark Analysis of Class - XII", font=("Verdana", 20), background="white")

Text2=Label(Home, text="Done By :", font=("Verdana", 20), background="white")

Arvin=Image.open("Arvin.png")

Ezhil=Image.open("Ezhil.png")

Kingston=Image.open("Kingston.png")

Arvin\_Resize=Arvin.resize((150, 180), Image.ANTIALIAS)

Ezhil\_Resize=Ezhil.resize((150, 180), Image.ANTIALIAS)

Kingston\_Resize=Kingston.resize((150, 180), Image.ANTIALIAS)

Arvin=ImageTk.PhotoImage(Arvin\_Resize)

Ezhil=ImageTk.PhotoImage(Ezhil\_Resize)

Kingston=ImageTk.PhotoImage(Kingston\_Resize)

Pic1=Label(Home, image = Arvin, relief="flat")

Pic2=Label(Home, image = Ezhil, relief="flat")

Pic3=Label(Home, image = Kingston, relief="flat")

Name1=Label(Home, text="Arvin Samuel A.", font=("Verdana", 10), background="white")

Name2=Label(Home, text="Ezhil Adhithya P.", font=("Verdana", 10), background="white")

Name3=Label(Home, text="Kingston Richard J.", font=("Verdana", 10), background="white")

Text=Label(Home, text="Click Here to Login", font=("Verdana", 18), background="white")

style=Style()

style.configure("Home.TButton", font=("Verdana", 15))

Login=Button(Home, text="Login", command=Next, style="Home.TButton")

Logo.grid(column=0, row=0, columnspan=4)

Text1.grid(column=0, row=1, columnspan=4, pady=10)

Text2.grid(column=0, row=2, columnspan=4, pady=10)

Pic1.grid(column=0, row=3, pady=10)

Pic2.grid(column=1, row=3, pady=10)

Pic3.grid(column=2, row=3, pady=10)

Name1.grid(column=0, row=4, pady=20)

Name2.grid(column=1, row=4, pady=20)

Name3.grid(column=2, row=4, pady=20)

Text.grid(column=0, row=5, columnspan=4, pady=10)

Login.grid(column=0, row=6, columnspan=4, pady=10)

class Menu\_Bar:

def \_\_init\_\_(self, Menu):

SMA.config(menu=Menu)

class Page1:

def \_\_init\_\_(self):

Frame1=tkinter.Frame(SMA)

Frame1.pack(fill=BOTH, expand=True)

def Student():

Frame1.forget()

Obj=Login\_Student()

def ST():

Frame1.forget()

Obj=Login\_ST()

def CT():

Frame1.forget()

Obj=Login\_CT()

def Previous():

Frame1.forget()

Menubar=Menu()

Top\_Menu=Menu\_Bar(Menubar)

Home.pack(fill=BOTH, expand=True)

Frame1.configure(background="white")

Frame1.columnconfigure(0, weight=1)

Frame1.columnconfigure(1, weight=1)

Menubar=Menu(Frame1)

Back=Menubar.add\_command(label="Back", command=Previous)

Text=Label(Frame1, text="Are you a", font=("Verdana", 70), background="white")

Student=Button(Frame1, text="Student / Parent", command=Student, style="A.TButton")

Subject\_Teacher=Button(Frame1, text="Subject Teacher", command=ST, aaaaastyle="A.TButton")

Class\_Teacher=Button(Frame1, text="Class Teacher", command=CT, style="A.TButton")

style1=Style()

style1.configure("A.TButton", font=("Verdana", 40))

Text.grid(column=0, row=0, columnspan=2, pady=40)

Student.grid(column=0, row=1, pady=40, ipadx=15, ipady=15)

Subject\_Teacher.grid(column=1, row=1, columnspan=2, pady=40, ipadx=15, ipady=15)

Class\_Teacher.grid(column=0, row=2, columnspan=2, pady=40, ipadx=15, ipady=15)

Top\_Menu=Menu\_Bar(Menubar)

class Login\_Student:

def \_\_init\_\_(self):

Frame2=tkinter.Frame(SMA)

Frame2.pack(fill=BOTH, expand=True)

def Login():

if bool(\_Name.get())==False or bool(\_Date.get())==False or bool(\_Month.get())==False aaaaasds or bool(\_Year.get())==False or bool(\_Phone.get())==False:

messagebox.showerror("Error", "Some Field or Fields are Left Empty !!")

else:

login1=Framework.Student(\_Name.get())

login1.\_\_init\_\_(\_Name.get())

try:

login1.Login((int(\_Date.get()), int(\_Month.get()), int(\_Year.get())), \_Phone.get())

if Framework.Login\_S==False:

messagebox.showerror("Error", "Sorry the Entered Information is Wrong !!")

else:

Frame2.forget()

Obj=Student1()

except:

messagebox.showerror("Error", "Sorry the Entered Information is Wrong !!")

def Previous():

Frame2.forget()

Obj=Page1()

Frame2.configure(background="white")

Frame2.columnconfigure(0, weight=1)

Frame2.columnconfigure(1, weight=1)

\_Name=StringVar()

\_Date=StringVar()

\_Month=StringVar()

\_Year=StringVar()

\_Phone=StringVar()

Menubar=Menu(Frame2)

Back=Menubar.add\_command(label="Back", command=Previous)

Text1=Label(Frame2, text="LOGIN", font=("Verdana", 40), background="white")

Text2=Label(Frame2, text="(For Student)", font=("Verdana", 20), background="white")

Name=Label(Frame2, text="Enter your Name : ", font=("Verdana", 20, "bold"), aaaaabackground="white")

Name\_Ext=Label(Frame2, text="(in lower case without initial)", font=("Verdana", 20, aaaaa"bold"), background="white")

Name\_Input=Entry(Frame2, textvariable=\_Name, font=("Verdana", 20, "normal"))

Date=Label(Frame2, text="Enter your \"Date\" of Birth (from 1 to 31) : ", aaaaafont=("Verdana", 20, "bold"), background="white")

Date\_Input=Entry(Frame2, textvariable=\_Date, font=("Verdana", 20, "normal"))

Month=Label(Frame2, text="Enter your \"Month\" of Birth (from 1 to 12) : ", aaaaafont=("Verdana", 20, "bold"), background="white")

Month\_Input=Entry(Frame2, textvariable=\_Month, font=("Verdana", 20, "normal"))

Year=Label(Frame2, text="Enter your \"Year\" of Birth (ex. 2005) : ", font=("Verdana", aaaaa20, "bold"), background="white")

Year\_Input=Entry(Frame2, textvariable=\_Year, font=("Verdana", 20, "normal"))

Phone=Label(Frame2, text="Enter your Phone Number :", font=("Verdana", 20, "bold"), aaaaabackground="white")

Phone\_Input=Entry(Frame2, textvariable=\_Phone, font=("Verdana", 20, "normal"))

style2=Style()

style2.configure("B.TButton", font=("Verdana", 15))

Clear=Button(Frame2, text="CLEAR", command=lambda:[Name\_Input.delete(0, END), aaaaaDate\_Input.delete(0, END), Month\_Input.delete(0, END), Year\_Input.delete(0, END), aaaaaPhone\_Input.delete(0, END) ], style="B.TButton")

Submit=Button(Frame2, text="SUBMIT", command=Login, style="B.TButton")

Text1.grid(column=0, row=0, columnspan=2, pady=15)

Text2.grid(column=0, row=1, columnspan=2)

Name.grid(column=0, row=2, sticky=W, padx=40)

Name\_Ext.grid(column=0, row=3, pady=15, sticky=W, padx=40)

Name\_Input.grid(column=1, row=2, rowspan=2, pady=15)

Date.grid(column=0, row=4, pady=15, sticky=W, padx=40)

Date\_Input.grid(column=1, row=4, pady=15)

Month.grid(column=0, row=5, pady=15, sticky=W, padx=40)

Month\_Input.grid(column=1, row=5, pady=15)

Year.grid(column=0, row=6, pady=15, sticky=W, padx=40)

Year\_Input.grid(column=1, row=6, pady=15)

Phone.grid(column=0, row=7, pady=15, sticky=W, padx=40)

Phone\_Input.grid(column=1, row=7, pady=15)

Clear.grid(column=1, row=8, pady=15)

Submit.grid(column=1, row=9)

Top\_Menu=Menu\_Bar(Menubar)

class Student1:

def \_\_init\_\_(self):

Frame3=tkinter.Frame(SMA)

Frame3.pack(fill=BOTH, expand=True)

Stu\_Obj=Framework.Student(Framework.\_Name)

def Logout():

if messagebox.askokcancel("Logout","You Are About to Logout"):

Frame3.forget()

Obj=Login\_Student()

def Logout1():

if messagebox.askokcancel("Logout","You Are About to Logout"):

Frame3.forget()

Obj=Login\_CT()

def Previous1():

Frame3.forget()

Obj=CT\_Review()

def Report():

Frame3.forget()

Obj=Exams()

def func1():

Stu\_Obj.Total\_Bar()

def func2():

Stu\_Obj.Pie\_Marks\_Distribution()

def func3():

Stu\_Obj.Overall\_Radar()

def func4():

Stu\_Obj.Subject\_Bar()

Frame3.configure(background="white")

Frame3.columnconfigure(0, weight=1)

Frame3.columnconfigure(1, weight=1)

Menubar=Menu(Frame3)

Logout=Menubar.add\_command(label="Logout", command=Logout)

Text1=Label(Frame3, text="Hello, " + Framework.\_Name.title(), font=("Verdana", 40), aaaaabackground="white")

Text2=Label(Frame3, text="What do you want to see ?", font=("Verdana", 25), aaaaabackground="white")

style3=Style()

style3.configure("C.TButton", font=("Verdana", 20))

Total\_Bar=Button(Frame3, text="Comparison of Total Marks", command=func1, aaaaastyle="C.TButton")

Pie=Button(Frame3, text="Distribution of subject marks", command=func2, aaaaastyle="C.TButton")

Radar=Button(Frame3, text="Overall Academic Performance", command=func3, aaaaastyle="C.TButton")

Group\_Bar=Button(Frame3, text="Overall Performance in each subject", aaaaacommand=func4, style="C.TButton")

Report\_Card=Button(Frame3, text="Report Card", command=Report, style="C.TButton")

Text1.grid(column=0, row=0, columnspan=2, pady=20, padx=40, sticky=W)

Text2.grid(column=0, row=1, columnspan=2, pady=20, padx=100, sticky=W)

Total\_Bar.grid(column=0, row=2, pady=20)

Pie.grid(column=1, row=2, pady=20)

Radar.grid(column=0, row=3, pady=20)

Group\_Bar.grid(column=1, row=3, pady=20)

Report\_Card.grid(column=0, row=4, columnspan=2, pady=20)

Top\_Menu=Menu\_Bar(Menubar)

class Exams:

def \_\_init\_\_(self):

Frame4=tkinter.Frame(SMA)

Frame4.pack(fill=BOTH, expand=True)

Stu\_Obj=Framework.Student(Framework.\_Name)

def Previous():

Frame4.forget()

Obj=Student1()

def func1():

Stu\_Obj.Exam("Midterm-1")

Stu\_Obj.Report\_Card()

def func2():

Stu\_Obj.Exam("Terminal-1")

Stu\_Obj.Report\_Card()

def func3():

Stu\_Obj.Exam("Midterm-2")

Stu\_Obj.Report\_Card()

def func4():

Stu\_Obj.Exam("Terminal-2")

Stu\_Obj.Report\_Card()

Frame4.configure(background="white")

Frame4.columnconfigure(0, weight=1)

Frame4.columnconfigure(1, weight=1)

Menubar=Menu(Frame4)

Back=Menubar.add\_command(label="Back", command=Previous)

style4=Style()

style4.configure("D.TButton", font=("Verdana", 30))

Text=Label(Frame4, text="Please select a Exam from Below", font=("Verdana", 40), aaaaabackground="white")

Midterm1=Button(Frame4, text="Midterm-1", command=func1, style="D.TButton")

Terminal1=Button(Frame4, text="Terminal-1", command=func2, style="D.TButton")

Midterm2=Button(Frame4, text="Midterm-2", command=func3, style="D.TButton")

Terminal2=Button(Frame4, text="Terminal-2", command=func4, style="D.TButton")

Text.grid(column=0, row=0, columnspan=2, pady=40, padx=40, sticky=W)

Midterm1.grid(column=0, row=1, pady=40)

Terminal1.grid(column=1, row=1, pady=40)

Midterm2.grid(column=0, row=2, pady=40)

Terminal2.grid(column=1, row=2, pady=40)

Top\_Menu=Menu\_Bar(Menubar)

class Login\_ST:

def \_\_init\_\_(self):

Frame5=tkinter.Frame(SMA)

Frame5.pack(fill=BOTH, expand=True)

def Login():

login2=Framework.Teacher(\_Username.get(), \_Password.get())

if Framework.Login\_T==False:

messagebox.showerror("Error", "Sorry the Entered Username or Password is Wrong !!")

else:

Frame5.forget()

Obj=ST1()

def Previous():

Frame5.forget()

Obj=Page1()

Frame5.configure(background="white")

Frame5.columnconfigure(0, weight=1)

Frame5.columnconfigure(1, weight=1)

\_Username=StringVar()

\_Password=StringVar()

Menubar=Menu(Frame5)

Back=Menubar.add\_command(label="Back", command=Previous)

Text1=Label(Frame5, text="LOGIN", font=("Verdana", 40), background="white")

Text2=Label(Frame5, text="(For Subject Teacher)", font=("Verdana", 20), aaaaabackground="white")

Username=Label(Frame5, text="Enter the Username : ", font=("Verdana", 20, "bold"), aaaaabackground="white")

Username\_Input=Entry(Frame5, textvariable=\_Username, font=("Verdana", 20, aaaaa"normal"))

Password=Label(Frame5, text="Enter the Password : ", font=("Verdana", 20, "bold"), aaaaabackground="white")

Password\_Input=Entry(Frame5, textvariable=\_Password, font=("Verdana", 20, "normal"), aaaaashow="\*")

style5=Style()

style5.configure("E.TButton", font=("Verdana", 15))

Clear=Button(Frame5, text="CLEAR", command=lambda:[Username\_Input.delete(0, aaaaaEND), Password\_Input.delete(0, END)], style="E.TButton")

Submit=Button(Frame5, text="SUBMIT", command=Login, style="E.TButton")

Text1.grid(column=0, row=0, columnspan=2, pady=20)

Text2.grid(column=0, row=1, columnspan=2)

Username.grid(column=0, row=2, sticky=W, padx=40)

Username\_Input.grid(column=1, row=2, pady=20)

Password.grid(column=0, row=3, sticky=W, padx=40)

Password\_Input.grid(column=1, row=3, pady=20)

Clear.grid(column=1, row=4, pady=20)

Submit.grid(column=1, row=5)

Top\_Menu=Menu\_Bar(Menubar)

class ST1:

def \_\_init\_\_(self):

Frame6=tkinter.Frame(SMA)

Frame6.pack(fill=BOTH, expand=True)

def Logout():

if messagebox.askokcancel("Logout","You Are About to Logout"):

Frame6.forget()

Obj=Login\_ST()

def func1():

Frame6.forget()

Obj=ST\_Edit()

def func2():

Frame6.forget()

Obj=ST\_View()

Frame6.configure(background="white")

Frame6.columnconfigure(0, weight=1)

Frame6.columnconfigure(1, weight=1)

Menubar=Menu(Frame6)

Logout=Menubar.add\_command(label="Logout", command=Logout)

style6=Style()

style6.configure("F.TButton", font=("Verdana", 25))

Text1=Label(Frame6, text="Hello, " + Framework.Teachers[Framework.User][0].title(), aaaaafont=("Verdana", 40), background="white")

Text2=Label(Frame6, text="What do you want to do ?", font=("Verdana", 25), aaaaabackground="white")

Edit=Button(Frame6, text="Edit", command=func1, style="F.TButton")

View=Button(Frame6, text="View", command=func2, style="F.TButton")

Text1.grid(column=0, row=0, columnspan=2, pady=20, padx=40, sticky=W)

Text2.grid(column=0, row=1, columnspan=2, pady=20, padx=100, sticky=W)

Edit.grid(column=0, row=2, pady=40)

View.grid(column=1, row=2, pady=40)

Top\_Menu=Menu\_Bar(Menubar)

class ST\_Edit:

def \_\_init\_\_(self):

Frame7=tkinter.Frame(SMA)

Frame7.pack(fill=BOTH, expand=True)

def Logout():

if messagebox.askokcancel("Logout","You Are About to Logout"):

Frame7.forget()

Obj=Login\_ST()

def Previous():

Frame7.forget()

Obj=ST1()

def func1():

try:

global ST\_Obj

ST\_Obj=Framework.ST(\_Section.get())

except:

pass

def func2():

if bool(\_Section.get())==True:

try:

Name\_Input["values"]=tuple(Framework.MARK1.keys())

except:

pass

def func3():

if bool(\_Section.get())==False or bool(\_Exam.get())==False or aaaaazassbool(\_Name.get())==False or bool(\_New\_Marks.get())==False:

messagebox.showerror("Error", "Some Field or Fields are Left Empty !!")

else:

ST\_Obj.Edit(\_Name.get(), \_Exam.get(), \_New\_Marks.get())

if Framework.Mistake1==True:

messagebox.showerror("Error", "The Marks should be between 0 and 100 !!")

else:

messagebox.showinfo("Success", "The Marks of the Student is changed aaaaaaaaaasdffSuccessfully !!")

Frame7.configure(background="white")

Frame7.columnconfigure(0, weight=1)

Frame7.columnconfigure(1, weight=1)

Frame7.columnconfigure(2, weight=1)

Frame7.columnconfigure(3, weight=1)

Frame7.rowconfigure(0, weight=1)

Menubar=Menu(Frame7)

Logout=Menubar.add\_command(label="Logout", command=Logout)

Back=Menubar.add\_command(label="Back", command=Previous)

style7=Style()

style7.configure("G.TButton", font=("Verdana", 20))

\_Section=StringVar()

\_Exam=StringVar()

\_Name=StringVar()

\_New\_Marks=IntVar()

Section=Label(Frame7, text="Section", font=("Verdana", 20), background="white")

Section\_Input=Combobox(Frame7, textvariable=\_Section, font=("Verdana", 20), state = aaaaa"readonly")

Section\_Input["values"]=Framework.Teachers[Framework.User][2]

Exam=Label(Frame7, text="Exam", font=("Verdana", 20), background="white")

Exam\_Input=Combobox(Frame7, textvariable=\_Exam, font=("Verdana", 20), aaaaapostcommand=func1, state = "readonly")

Exam\_Input["values"]=("Midterm-1", "Terminal-1", "Midterm-2", "Terminal-2")

Name=Label(Frame7, text="Name of the Student", font=("Verdana", 20), aaaaabackground="white")

Name\_Input=Combobox(Frame7, textvariable=\_Name, font=("Verdana", 20), aaaaapostcommand=lambda: [func1(), func2()], state = "readonly")

New\_Marks=Label(Frame7, text="New Marks", font=("Verdana", 20), aaaaabackground="white")

New\_Marks\_Input=Entry(Frame7, textvariable=\_New\_Marks, font=("Verdana", 20, aaaaa"normal"))

Submit=Button(Frame7, text="Submit", command=func3, style="G.TButton")

Clear=Button(Frame7, text="Clear", command=lambda:[Section\_Input.set(""), aaaaaExam\_Input.set(""), Name\_Input.set(""), New\_Marks\_Input.delete(0, END)] , aaaaastyle="G.TButton")

Section.grid(column=0, row=1, pady=20, padx=10)

Exam.grid(column=1, row=1, pady=20, padx=10)

Name.grid(column=2, row=1, pady=20, padx=10)

New\_Marks.grid(column=3, row=1, pady=20, padx=10)

Section\_Input.grid(column=0, row=2, pady=20, padx=10)

Exam\_Input.grid(column=1, row=2, pady=20, padx=10)

Name\_Input.grid(column=2, row=2, pady=20, padx=10)

New\_Marks\_Input.grid(column=3, row=2, pady=20, padx=10)

Submit.grid(column=0, row=3, columnspan=2, pady=100)

Clear.grid(column=2, row=3, columnspan=2, pady=100)

Top\_Menu=Menu\_Bar(Menubar)

class ST\_View:

def \_\_init\_\_(self):

Frame8=tkinter.Frame(SMA)

Frame8.pack(fill=BOTH, expand=True)

def Logout():

if messagebox.askokcancel("Logout","You Are About to Logout"):

Frame8.forget()

Obj=Login\_ST()

def Previous():

Frame8.forget()

Obj=ST1()

def func1():

try:

global ST\_Obj

ST\_Obj=Framework.ST(\_Section.get())

except:

pass

def func2():

try:

if bool(\_Section.get())==True:

Name\_Input["values"]=tuple(Framework.MARK1.keys())

except:

pass

def func3():

if bool(\_Section.get())==False or bool(\_Exam.get())==False or aaaaaaabool(\_Name.get())==False:

messagebox.showerror("Error", "Some Field or Fields are Left Empty !!")

else:

ST\_Obj.View(\_Name.get(), \_Exam.get())

messagebox.showinfo("Marks", \_Name.get().title() + " have scored " + aaaaaaaaaastr(Framework.Marks) + " in " + \_Exam.get())

Frame8.configure(background="white")

Frame8.columnconfigure(0, weight=1)

Frame8.columnconfigure(1, weight=1)

Frame8.columnconfigure(2, weight=1)

Frame8.rowconfigure(0, weight=1)

Menubar=Menu(Frame8)

Logout=Menubar.add\_command(label="Logout", command=Logout)

Back=Menubar.add\_command(label="Back", command=Previous)

style8=Style()

style8.configure("H.TButton", font=("Verdana", 20))

\_Section=StringVar()

\_Exam=StringVar()

\_Name=StringVar()

\_New\_Marks=IntVar()

Section=Label(Frame8, text="Section", font=("Verdana", 20), background="white")

Section\_Input=Combobox(Frame8, textvariable=\_Section, font=("Verdana", 20), state = aaaaa"readonly")

Section\_Input["values"]=Framework.Teachers[Framework.User][2]

Exam=Label(Frame8, text="Exam", font=("Verdana", 20), background="white")

Exam\_Input=Combobox(Frame8, textvariable=\_Exam, font=("Verdana", 20), aaaaapostcommand=func1, state = "readonly")

Exam\_Input["values"]=("Midterm-1", "Terminal-1", "Midterm-2", "Terminal-2")

Name=Label(Frame8, text="Name of the Student", font=("Verdana", 20), aaaaabackground="white")

Name\_Input=Combobox(Frame8, textvariable=\_Name, font=("Verdana", 20), aaaaapostcommand=lambda: [func1(), func2()], state = "readonly")

Submit=Button(Frame8, text="Submit", command=func3, style="H.TButton")

Clear=Button(Frame8, text="Clear", command=lambda:[Section\_Input.set(""), aaaaaExam\_Input.set(""), Name\_Input.set("")] , style="H.TButton")

Section.grid(column=0, row=1, pady=20, padx=10)

Exam.grid(column=1, row=1, pady=20, padx=10)

Name.grid(column=2, row=1, pady=20, padx=10)

Section\_Input.grid(column=0, row=2, pady=20, padx=10)

Exam\_Input.grid(column=1, row=2, pady=20, padx=10)

Name\_Input.grid(column=2, row=2, pady=20, padx=10)

Submit.grid(column=0, row=3, pady=100)

Clear.grid(column=2, row=3, pady=100)

Top\_Menu=Menu\_Bar(Menubar)

class Login\_CT:

def \_\_init\_\_(self):

Frame9=tkinter.Frame(SMA)

Frame9.pack(fill=BOTH, expand=True)

def Login():

login3=Framework.Teacher(\_Username.get(), \_Password.get())

if Framework.Login\_T==False and Framework.Login\_CT==False:

messagebox.showerror("Error", "Sorry the Entered Username or Password is Wrong !!")

elif Framework.Login\_T==True and Framework.Login\_CT==False:

messagebox.showerror("Error", "You're Not a Class Teacher !!")

else:

Frame9.forget()

Obj=CT1()

def Previous():

Frame9.forget()

Obj=Page1()

Frame9.configure(background="white")

Frame9.columnconfigure(0, weight=1)

Frame9.columnconfigure(1, weight=1)

\_Username=StringVar()

\_Password=StringVar()

Menubar=Menu(Frame9)

Back=Menubar.add\_command(label="Back", command=Previous)

Text1=Label(Frame9, text="LOGIN", font=("Verdana", 40), background="white")

Text2=Label(Frame9, text="(For Class Teacher)", font=("Verdana", 20), aaaaabackground="white")

Username=Label(Frame9, text="Enter the Username : ", font=("Verdana", 20, "bold"), aaaaabackground="white")

Username\_Input=Entry(Frame9, textvariable=\_Username, font=("Verdana", 20, aaaaa"normal"))

Password=Label(Frame9, text="Enter the Password : ", font=("Verdana", 20, "bold"), aaaaabackground="white")

Password\_Input=Entry(Frame9, textvariable=\_Password, font=("Verdana", 20, "normal"), aaaaashow="\*")

style9=Style()

style9.configure("I.TButton", font=("Verdana", 15))

Clear=Button(Frame9, text="CLEAR", command=lambda:[Username\_Input.delete(0, aaaaaEND), Password\_Input.delete(0, END)], style="I.TButton")

Submit=Button(Frame9, text="SUBMIT", command=Login, style="I.TButton")

Text1.grid(column=0, row=0, columnspan=2, pady=20)

Text2.grid(column=0, row=1, columnspan=2)

Username.grid(column=0, row=2, sticky=W, padx=40)

Username\_Input.grid(column=1, row=2, pady=20)

Password.grid(column=0, row=3, sticky=W, padx=40)

Password\_Input.grid(column=1, row=3, pady=20)

Clear.grid(column=1, row=4, pady=20)

Submit.grid(column=1, row=5)

Top\_Menu=Menu\_Bar(Menubar)

class CT1:

def \_\_init\_\_(self):

Frame10=tkinter.Frame(SMA)

Frame10.pack(fill=BOTH, expand=True)

def Logout():

if messagebox.askokcancel("Logout","You Are About to Logout"):

Frame10.forget()

Obj=Login\_CT()

def func1():

Frame10.forget()

Obj=CT\_Edit()

def func2():

Frame10.forget()

Obj=CT\_View()

def func3():

Frame10.forget()

Obj=CT\_Review()

Frame10.configure(background="white")

Frame10.columnconfigure(0, weight=1)

Frame10.columnconfigure(1, weight=1)

Menubar=Menu(Frame10)

Logout=Menubar.add\_command(label="Logout", command=Logout)

style10=Style()

style10.configure("J.TButton", font=("Verdana", 25))

Text1=Label(Frame10, text="Hello, " + Framework.Teachers[Framework.User][0].title(), aaaaafont=("Verdana", 40), background="white")

Text2=Label(Frame10, text="What do you want to do ?", font=("Verdana", 25), aaaaabackground="white")

Edit=Button(Frame10, text="Edit", command=func1, style="J.TButton")

View=Button(Frame10, text="View", command=func2, style="J.TButton")

Review=Button(Frame10, text="Review a Student's Performance", command=func3, aaaaastyle="J.TButton")

Text1.grid(column=0, row=0, columnspan=2, pady=20, padx=40, sticky=W)

Text2.grid(column=0, row=1, columnspan=2, pady=20, padx=100, sticky=W)

Edit.grid(column=0, row=2, pady=40)

View.grid(column=1, row=2, pady=40)

Review.grid(column=0, row=3, columnspan=2, pady=40)

Top\_Menu=Menu\_Bar(Menubar)

class CT\_Edit:

def \_\_init\_\_(self):

Frame11=tkinter.Frame(SMA)

Frame11.pack(fill=BOTH, expand=True)

global CT\_Obj

CT\_Obj=Framework.CT()

def Logout():

if messagebox.askokcancel("Logout","You Are About to Logout"):

Frame11.forget()

Obj=Login\_CT()

def Previous():

Frame11.forget()

Obj=CT1()

def func1():

if bool(\_Subject.get())==False or bool(\_Exam.get())==False or bool(\_Name.get())==False or bool(\_New\_Marks.get())==False:

messagebox.showerror("Error", "Some Field or Fields are Left Empty !!")

else:

CT\_Obj.Edit(\_Name.get(), \_Exam.get(), \_Subject.get(), \_New\_Marks.get())

if Framework.Mistake2==True:

messagebox.showerror("Error", "The Marks should be between 0 and 100 !!")

else:

messagebox.showinfo("Success", "The Marks of the Student is changed aaaaaasadsssddsdsSuccessfully !!")

Frame11.configure(background="white")

Frame11.columnconfigure(0, weight=1)

Frame11.columnconfigure(1, weight=1)

Frame11.columnconfigure(2, weight=1)

Frame11.columnconfigure(3, weight=1)

Frame11.rowconfigure(0, weight=1)

Menubar=Menu(Frame11)

Logout=Menubar.add\_command(label="Logout", command=Logout)

Back=Menubar.add\_command(label="Back", command=Previous)

style11=Style()

style11.configure("K.TButton", font=("Verdana", 20))

\_Name=StringVar()

\_Exam=StringVar()

\_Subject=StringVar()

\_New\_Marks=IntVar()

Name=Label(Frame11, text="Name of the Student", font=("Verdana", 20), aaaaabackground="white")

Name\_Input=Combobox(Frame11, textvariable=\_Name, font=("Verdana", 20), state = aaaaa"readonly")

Name\_Input["values"]=tuple(Framework.MARK2.keys())

Exam=Label(Frame11, text="Exam", font=("Verdana", 20), background="white")

Exam\_Input=Combobox(Frame11, textvariable=\_Exam, font=("Verdana", 20), state = aaaaa"readonly")

Exam\_Input["values"]=("Midterm-1", "Terminal-1", "Midterm-2", "Terminal-2")

Subject=Label(Frame11, text="Subject", font=("Verdana", 20), background="white")

Subject\_Input=Combobox(Frame11, textvariable=\_Subject, font=("Verdana", 20), state = aaaaa"readonly")

Subject\_Input["values"]=Framework.Subjects

New\_Marks=Label(Frame11, text="New Marks", font=("Verdana", 20), aaaaabackground="white")

New\_Marks\_Input=Entry(Frame11, textvariable=\_New\_Marks, font=("Verdana", 20, aaaaa"normal"))

Submit=Button(Frame11, text="Submit", command=func1, style="K.TButton")

Clear=Button(Frame11, text="Clear", command=lambda:[ Name\_Input.set(""), aaaaaSubject\_Input.set(""), Exam\_Input.set(""), New\_Marks\_Input.delete(0, END)] , aaaaastyle="K.TButton")

Name.grid(column=0, row=1, pady=20, padx=10)

Exam.grid(column=1, row=1, pady=20, padx=10)

Subject.grid(column=2, row=1, pady=20, padx=10)

New\_Marks.grid(column=3, row=1, pady=20, padx=10)

Name\_Input.grid(column=0, row=2, pady=20, padx=10)

Exam\_Input.grid(column=1, row=2, pady=20, padx=10)

Subject\_Input.grid(column=2, row=2, pady=20, padx=10)

New\_Marks\_Input.grid(column=3, row=2, pady=20, padx=10)

Submit.grid(column=0, row=3, columnspan=2, pady=100)

Clear.grid(column=2, row=3, columnspan=2, pady=100)

Top\_Menu=Menu\_Bar(Menubar)

class CT\_View:

def \_\_init\_\_(self):

Frame12=tkinter.Frame(SMA)

Frame12.pack(fill=BOTH, expand=True)

global CT\_Obj

CT\_Obj=Framework.CT()

def Logout():

if messagebox.askokcancel("Logout","You Are About to Logout"):

Frame12.forget()

Obj=Login\_CT()

def Previous():

Frame12.forget()

Obj=CT1()

def func1():

if bool(\_Subject.get())==False or bool(\_Exam.get())==False or aaaaahgshbool(\_Name.get())==False:

messagebox.showerror("Error", "Some Field or Fields are Left Empty !!")

else:

CT\_Obj.View(\_Name.get(), \_Exam.get(), \_Subject.get())

messagebox.showinfo("Marks", \_Name.get().title() + " have scored " + aaaaaaaaaastr(Framework.Marks) + " in " + \_Subject.get() + " in " + \_Exam.get())

Frame12.configure(background="white")

Frame12.columnconfigure(0, weight=1)

Frame12.columnconfigure(1, weight=1)

Frame12.columnconfigure(2, weight=1)

Frame12.rowconfigure(0, weight=1)

Menubar=Menu(Frame12)

Logout=Menubar.add\_command(label="Logout", command=Logout)

Back=Menubar.add\_command(label="Back", command=Previous)

style12=Style()

style12.configure("L.TButton", font=("Verdana", 20))

\_Name=StringVar()

\_Exam=StringVar()

\_Subject=StringVar()

Name=Label(Frame12, text="Name of the Student", font=("Verdana", 20), aaaaabackground="white")

Name\_Input=Combobox(Frame12, textvariable=\_Name, font=("Verdana", 20), state = aaaaa"readonly")

Name\_Input["values"]=tuple(Framework.MARK2.keys())

Exam=Label(Frame12, text="Exam", font=("Verdana", 20), background="white")

Exam\_Input=Combobox(Frame12, textvariable=\_Exam, font=("Verdana", 20), state = aaaaa"readonly")

Exam\_Input["values"]=("Midterm-1", "Terminal-1", "Midterm-2", "Terminal-2")

Subject=Label(Frame12, text="Subject", font=("Verdana", 20), background="white")

Subject\_Input=Combobox(Frame12, textvariable=\_Subject, font=("Verdana", 20), state = aaaaa"readonly")

Subject\_Input["values"]=Framework.Subjects

Submit=Button(Frame12, text="Submit", command=func1, style="L.TButton")

Clear=Button(Frame12, text="Clear", command=lambda:[ Name\_Input.set(""), aaaaaSubject\_Input.set(""), Exam\_Input.set("")] , style="L.TButton")

Name.grid(column=0, row=1, pady=20, padx=10)

Exam.grid(column=1, row=1, pady=20, padx=10)

Subject.grid(column=2, row=1, pady=20, padx=10)

Name\_Input.grid(column=0, row=2, pady=20, padx=10)

Exam\_Input.grid(column=1, row=2, pady=20, padx=10)

Subject\_Input.grid(column=2, row=2, pady=20, padx=10)

Submit.grid(column=0, row=3, pady=100)

Clear.grid(column=2, row=3, pady=100)

Top\_Menu=Menu\_Bar(Menubar)

class CT\_Review:

def \_\_init\_\_(self):

Frame13=tkinter.Frame(SMA)

Frame13.pack(fill=BOTH, expand=True)

global CT\_Obj

CT\_Obj=Framework.CT()

def Logout():

if messagebox.askokcancel("Logout","You Are About to Logout"):

Frame13.forget()

Obj=Login\_CT()

def Previous():

Frame13.forget()

Obj=CT1()

def func1():

if bool(\_Name.get())==False:

messagebox.showerror("Error", "The Name is Left Empty !!")

else:

Framework.\_Name=\_Name.get()

Frame13.forget()

Obj=CT\_Student()

Frame13.configure(background="white")

Frame13.columnconfigure(0, weight=1)

Frame13.columnconfigure(1, weight=1)

Menubar=Menu(Frame13)

Logout=Menubar.add\_command(label="Logout", command=Logout)

Back=Menubar.add\_command(label="Back", command=Previous)

style13=Style()

style13.configure("M.TButton", font=("Verdana", 20))

\_Name=StringVar()

Text=Label(Frame13, text="Please Select the Name of the Student from the Following : ", aaaaafont=("Verdana", 40), background="white")

Name\_Input=Combobox(Frame13, textvariable=\_Name, font=("Verdana", 20), state = aaaaa"readonly")

Name\_Input["values"]=tuple(Framework.MARK2.keys())

Submit=Button(Frame13, text="Submit", command=func1, style="M.TButton")

Clear=Button(Frame13, text="Clear", command=lambda:[ Name\_Input.set("")] , aaaaastyle="M.TButton")

Text.grid(column=0, row=0, columnspan=2, padx=40, pady=10, sticky=W)

Name\_Input.grid(column=0, row=1, columnspan=2, pady=100)

Submit.grid(column=0, row=2, pady=20)

Clear.grid(column=1, row=2, pady=20)

Top\_Menu=Menu\_Bar(Menubar)

class CT\_Student:

def \_\_init\_\_(self):

Frame14=tkinter.Frame(SMA)

Frame14.pack(fill=BOTH, expand=True)

Stu\_Obj=Framework.Student(Framework.\_Name)

def Logout():

if messagebox.askokcancel("Logout","You Are About to Logout"):

Frame14.forget()

Obj=Login\_CT()

def Previous():

Frame14.forget()

Obj=CT\_Review()

def Report():

Frame14.forget()

Obj=CT\_Exams()

def func1():

Stu\_Obj.Total\_Bar()

def func2():

Stu\_Obj.Pie\_Marks\_Distribution()

def func3():

Stu\_Obj.Overall\_Radar()

def func4():

Stu\_Obj.Subject\_Bar()

Frame14.configure(background="white")

Frame14.columnconfigure(0, weight=1)

Frame14.columnconfigure(1, weight=1)

Menubar=Menu(Frame14)

Logout=Menubar.add\_command(label="Logout", command=Logout)

Back=Menubar.add\_command(label="Back", command=Previous)

Top\_Menu=Menu\_Bar(Menubar)

Text1=Label(Frame14, text="Hello, " + Framework.\_Name.title(), font=("Verdana", 40), aaaaabackground="white")

Text2=Label(Frame14, text="What do you want to see ?", font=("Verdana", 25), aaaaabackground="white")

style14=Style()

style14.configure("N.TButton", font=("Verdana", 20))

Total\_Bar=Button(Frame14, text="Comparison of Total Marks", command=func1, aaaaastyle="N.TButton")

Pie=Button(Frame14, text="Distribution of subject marks", command=func2, aaaaastyle="N.TButton")

Radar=Button(Frame14, text="Overall Academic Performance", command=func3, aaaaastyle="N.TButton")

Group\_Bar=Button(Frame14, text="Overall Performance in each subject", aaaaacommand=func4, style="N.TButton")

Report\_Card=Button(Frame14, text="Report Card", command=Report, aaaaastyle="N.TButton")

Text1.grid(column=0, row=0, columnspan=2, pady=20, padx=40, sticky=W)

Text2.grid(column=0, row=1, columnspan=2, pady=20, padx=100, sticky=W)

Total\_Bar.grid(column=0, row=2, pady=20)

Pie.grid(column=1, row=2, pady=20)

Radar.grid(column=0, row=3, pady=20)

Group\_Bar.grid(column=1, row=3, pady=20)

Report\_Card.grid(column=0, row=4, columnspan=2, pady=20)

Top\_Menu=Menu\_Bar(Menubar)

class CT\_Exams:

def \_\_init\_\_(self):

Frame15=tkinter.Frame(SMA)

Frame15.pack(fill=BOTH, expand=True)

Stu\_Obj=Framework.Student(Framework.\_Name)

def Previous():

Frame15.forget()

Obj=CT\_Student()

def func1():

Stu\_Obj.Exam("Midterm-1")

Stu\_Obj.Report\_Card()

Frame15.forget()

Obj=CT\_Student()

def func2():

Stu\_Obj.Exam("Terminal-1")

Stu\_Obj.Report\_Card()

Frame15.forget()

Obj=CT\_Student()

def func3():

Stu\_Obj.Exam("Midterm-2")

Stu\_Obj.Report\_Card()

Frame15.forget()

Obj=CT\_Student()

def func4():

Stu\_Obj.Exam("Terminal-2")

Stu\_Obj.Report\_Card()

Frame15.forget()

Obj=CT\_Student()

Frame15.configure(background="white")

Frame15.columnconfigure(0, weight=1)

Frame15.columnconfigure(1, weight=1)

Menubar=Menu(Frame15)

Back=Menubar.add\_command(label="Back", command=Previous)

style15=Style()

style15.configure("O.TButton", font=("Verdana", 30))

Text=Label(Frame15, text="Please select a Exam from Below", font=("Verdana", 40), aaaaabackground="white")

Midterm1=Button(Frame15, text="Midterm-1", command=func1, style="O.TButton")

Terminal1=Button(Frame15, text="Terminal-1", command=func2, style="O.TButton")

Midterm2=Button(Frame15, text="Midterm-2", command=func3, style="O.TButton")

Terminal2=Button(Frame15, text="Terminal-2", command=func4, style="O.TButton")

Text.grid(column=0, row=0, columnspan=2, pady=40, padx=40, sticky=W)

Midterm1.grid(column=0, row=1, pady=40)

Terminal1.grid(column=1, row=1, pady=40)

Midterm2.grid(column=0, row=2, pady=40)

Terminal2.grid(column=1, row=2, pady=40)

Top\_Menu=Menu\_Bar(Menubar)

SMA.mainloop()

**Report\_Card.html:**

<!DOCTYPE html>

<html>

<head>

<style>

table, th, td {

border:1px solid #000000;

border-collapse:collapse !important;

text-align:center;

padding:3px

}

th {

vertical-align:middle;

text-transform:uppercase;

}

body {

font-family:"calibri";

}

.shade1{

background-color:#a6a6a6;

color:#222222;

}

.shade2 {

text-transform:capitalize;

background-color:#555555;

color:#ffffff;

}

.shade3 {

background-color:#ff0080;

text-transform:capitalize;

color:#ffffff;

}

.shade4 {

background-color:#ff99cc;

text-transform:capitalize;

}

.shade5 {

background-color:#ffe6f3;

}

.width1 {

width:230px;

}

.width2 {

width:450px;

}

.width3 {

width:100px;

}

.width4 {

width:130px;

}

.width5 {

width:50px;

}

.width6 {

width:30px;

}

.width7 {

width:200px;

}

.height1 {

height:30px;

}

.align\_right {

text-align:right;

}

.bottom {

border-bottom:1.5px dashed #000000;

}

</style>

</head>

<body>

<table style="margin-left:auto; margin-right:auto">

{% for Report in content %}

<tr>

<td colspan="6" style="border:1px solid #ffffff; border-top:1px solid #000000"><img src="School\_Logo.png"></td>

</tr>

<tr>

<td colspan="6" style="border:1px solid #ffffff">

<table id="inner">

<tr>

<td class="shade1 width1 height1">Name of the Examination</td>

<th class="width2">{{Report.Exam}}</th>

<td class="shade1 width3">Academic<br>Session</td>

<th class="width4">2022 - 2023</th>

</tr>

<tr>

<td class="shade1 height1">Name of the Student</td>

<th>{{Report.Name}}</th>

<td class="shade1">Class &<br>Sec</td>

<th>XII - {{Report.Sec}}</th>

</tr>

<tr>

<td class="shade1 height1">Name of the Class Teacher</td>

<th>{{Report.Teacher}}</th>

<td class="shade1">Date of<br>Birth</td>

<th>{{Report.Date}}.{{Report.Month}}.{{Report.Year}}</th>

</tr>

</table>

</td>

</tr>

<tr>

<th colspan="6" style="font-size:30px;border:1px solid #ffffff; border-bottom:1px solid #000000 !important;">SCHOLASTIC REPORT</th>

</tr>

<tr>

<th rowspan="2" class="shade2 width6">S.No.</th>

<th rowspan="2" class="shade2 width7">Subject</th>

<th rowspan="2" class="shade2 width5">Marks<br>Scored</th>

<th rowspan="2" class="shade2 width5">Grade</th>

<th colspan="2" class="shade3">8 Point Scale</th>

</tr>

<tr>

<th class="shade4 width6">Mark Range</th>

<th class="shade4 width6">Grade</th>

</tr>

<tr>

<td class="bottom height1">1.</td>

<th class="bottom" style="text-align:left; padding-left:15px">{{Report.Subject[0]}}</th>

<th class="bottom">{{Report.Marks[0]}}</th>

<th class="bottom">{{Report.Grade[0]}}</th>

<td class="shade5">91 - 100</td>

<td class="shade5">A1</td>

</tr>

<tr>

<td class="bottom height1">2.</td>

<th class="bottom" style="text-align:left; padding-left:15px">{{Report.Subject[1]}}</th>

<th class="bottom">{{Report.Marks[1]}}</th>

<th class="bottom">{{Report.Grade[1]}}</th>

<td class="shade5">81 - 90</td>

<td class="shade5">A2</td>

</tr>

<tr>

<td class="bottom height1">3.</td>

<th class="bottom" style="text-align:left; padding-left:15px">{{Report.Subject[2]}}</th>

<th class="bottom">{{Report.Marks[2]}}</th>

<th class="bottom">{{Report.Grade[2]}}</th>

<td class="shade5">71 - 80</td>

<td class="shade5">B1</td>

</tr>

<tr>

<td class="bottom height1">4.</td>

<th class="bottom" style="text-align:left; padding-left:15px">{{Report.Subject[3]}}</th>

<th class="bottom">{{Report.Marks[3]}}</th>

<th class="bottom">{{Report.Grade[3]}}</th>

<td class="shade5">61 - 70</td>

<td class="shade5">B2</td>

</tr>

<tr>

<td class="bottom height1">5.</td>

<th class="bottom" style="text-align:left; padding-left:15px">{{Report.Subject[4]}}</th>

<th class="bottom">{{Report.Marks[4]}}</th>

<th class="bottom">{{Report.Grade[4]}}</th>

<td class="shade5">51 - 60</td>

<td class="shade5">C1</td>

</tr>

<tr>

<td class="bottom height1">6.</td>

<th class="bottom"></th>

<th class="bottom"></th>

<th class="bottom"></th>

<td class="shade5">41 - 50</td>

<td class="shade5">C2</td>

</tr>

<tr>

<td class="height1">7.</td>

<th></th>

<th></th>

<th></th>

<td class="shade5">33 - 40</td>

<td class="shade5">D</td>

</tr>

<tr>

<td colspan="2" class="shade1 height1">Total Marks</td>

<th colspan="2">{{Report.Total}}</th>

<td class="shade5">32 & Below</td>

<td class="shade5">E<br><font size="2">(Failed)</font></td>

</tr>

<tr>

<td colspan="2" class="shade1 height1">Overall %</td>

<th colspan="2">{{Report.Percent}}</th>

<td class="shade1">Maximum Marks</td>

<td>100 %</td>

</tr>

<tr>

<td colspan="2" class="shade1 height1">Rank Order</td>

<th colspan="2">{{Report.Rank}}</th>

<td class="shade1">Min. Pass Mark</td>

<td>33 %</td>

</tr>

<tr>

<td colspan="2" class="shade1 height1">Days</td>

<th colspan="2">{{Report.Atten[0]}}/{{Report.Atten[1]}} Days</th>

<td class="shade1">Attendance %</td>

<th>{{Report.Atten\_Percent}}%</th>

</tr>

<tr>

<th colspan="6" style="border-left:1px solid #ffffff; border-right:1px solid #ffffff"><img src="Signatures\_Teachers.png"></th>

</tr>

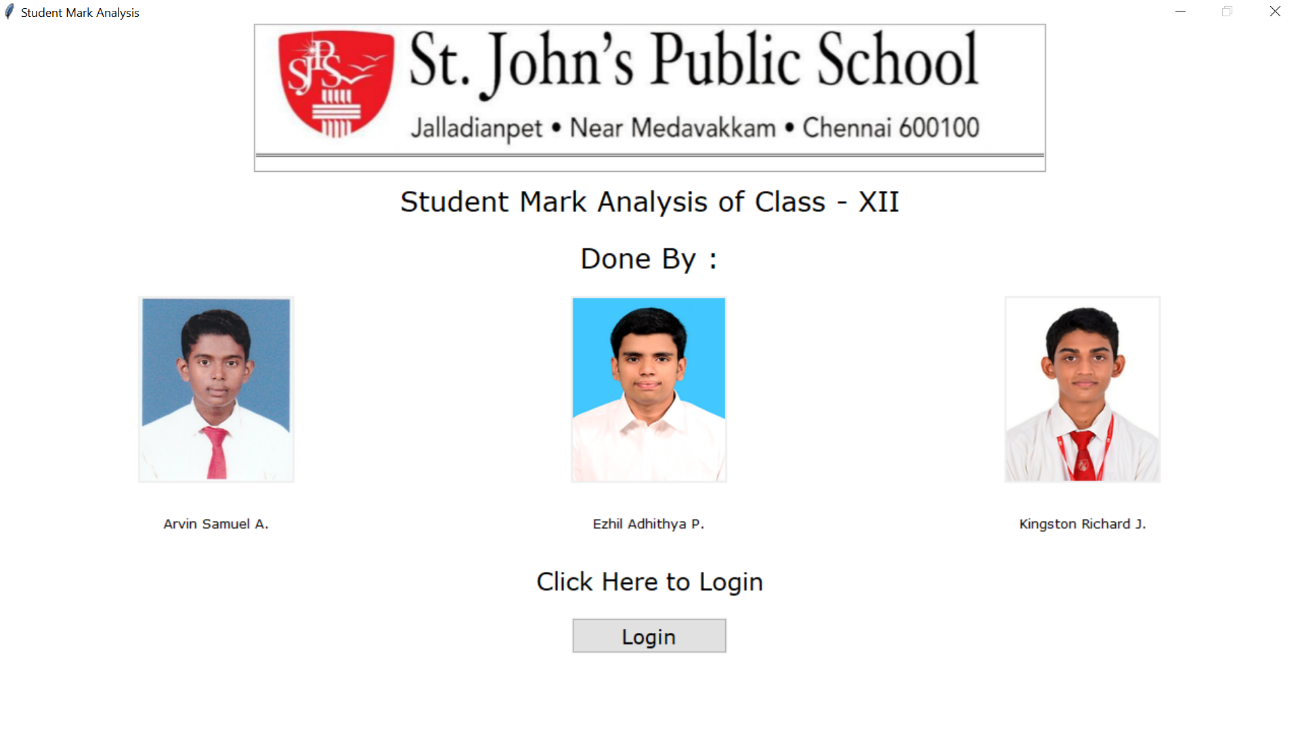
{% endfor %}

</table>

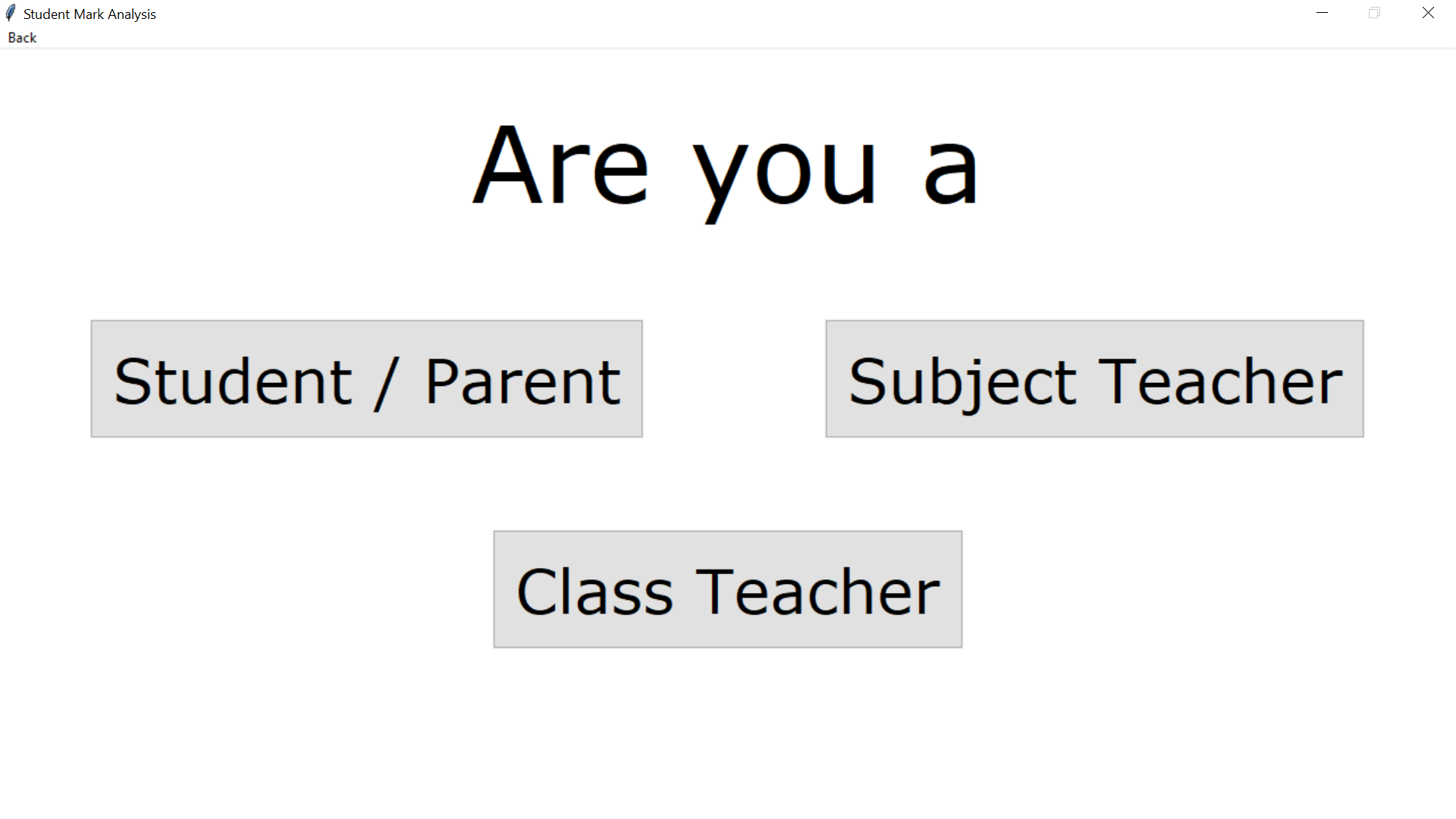
</body>

</html>

**OUTPUT**

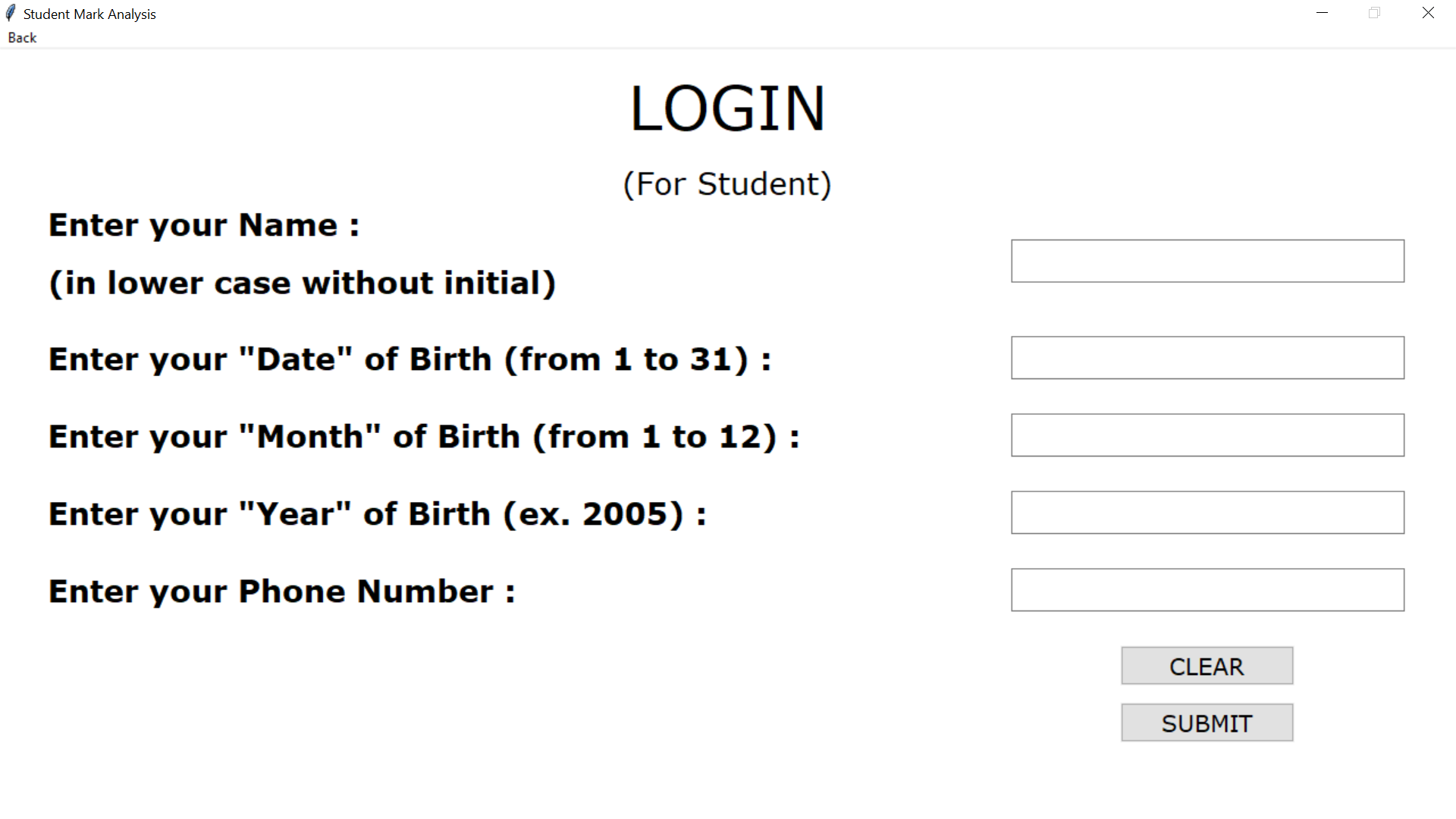


**Home Page**

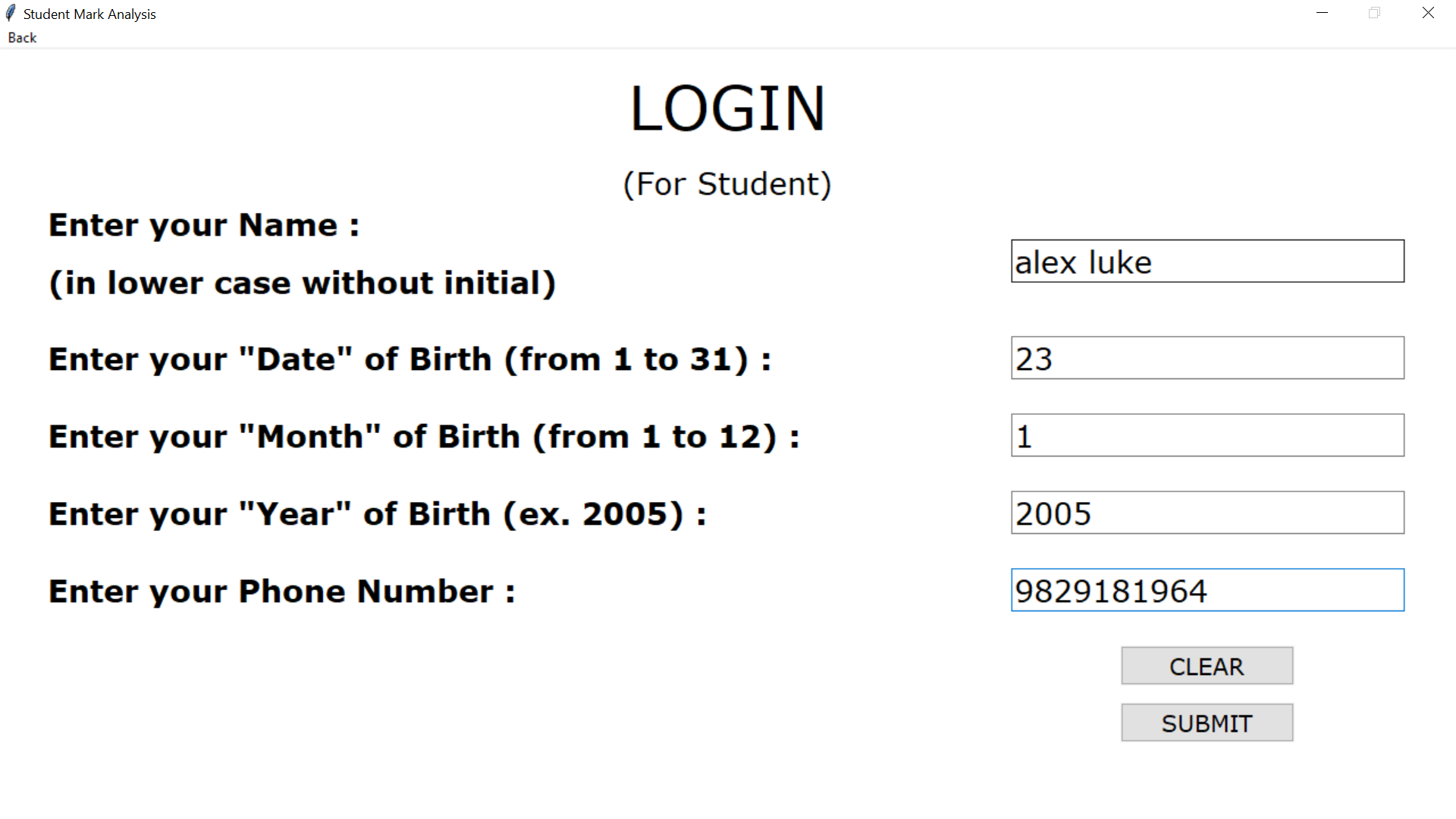


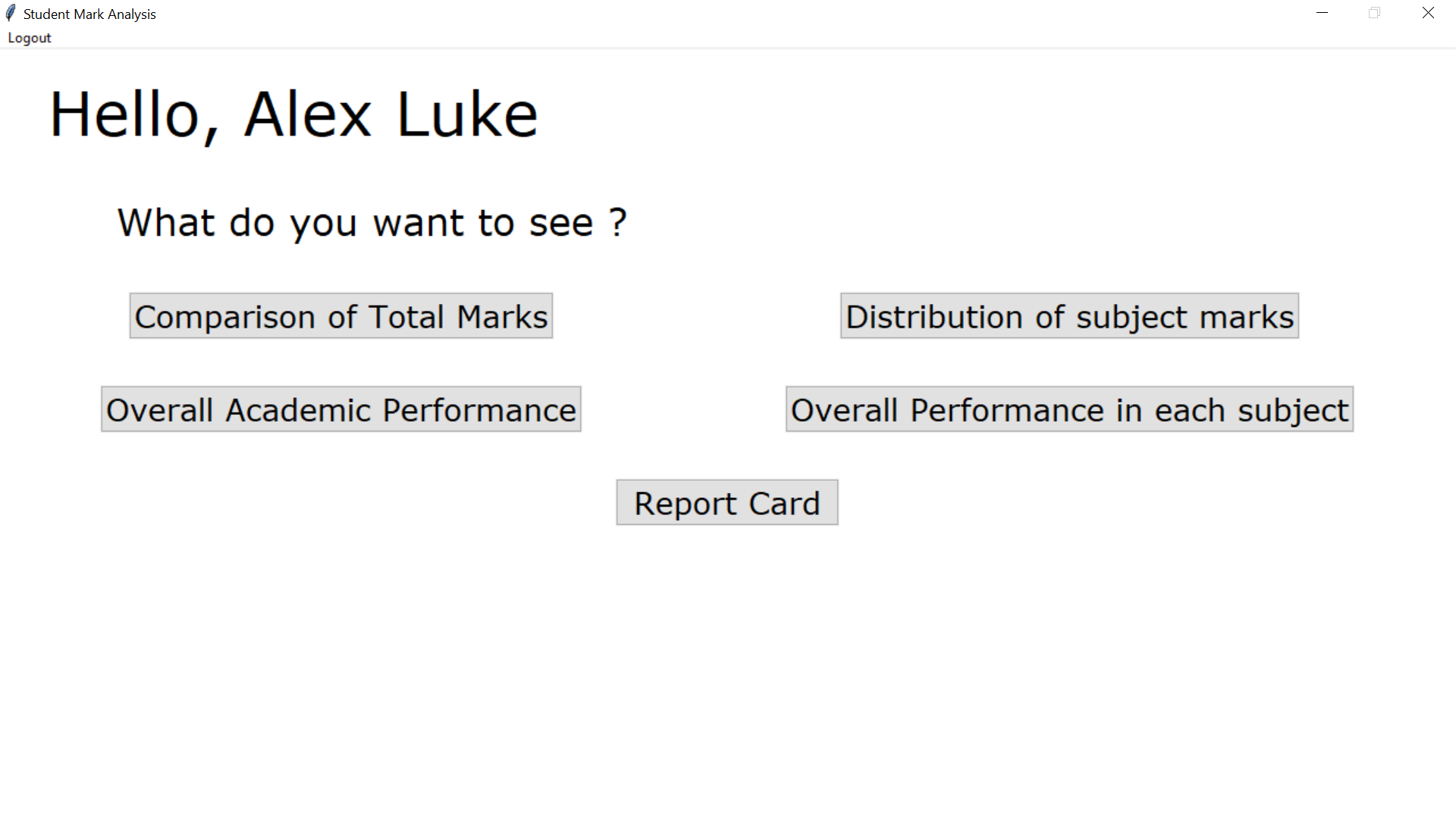
**The Next Page after clicking Login Button**

**Student/Parent:**



**Login Page of the Student/Parent**

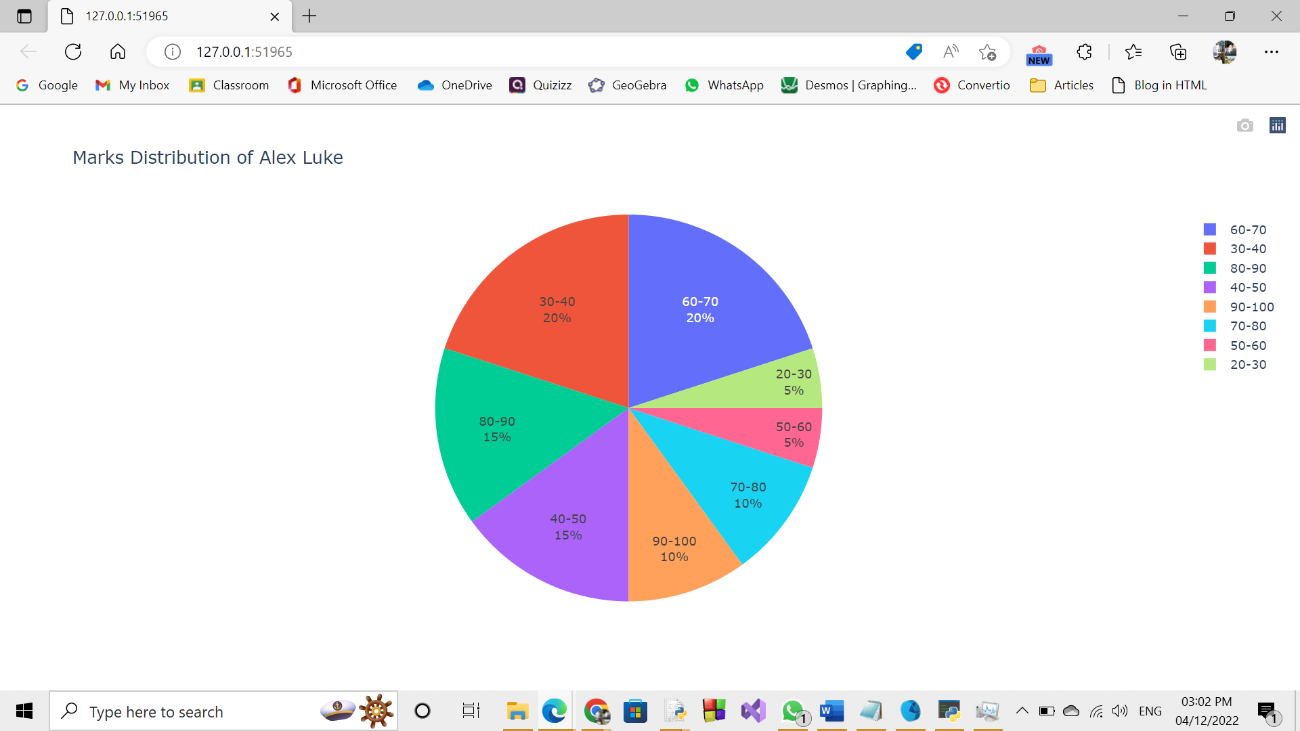




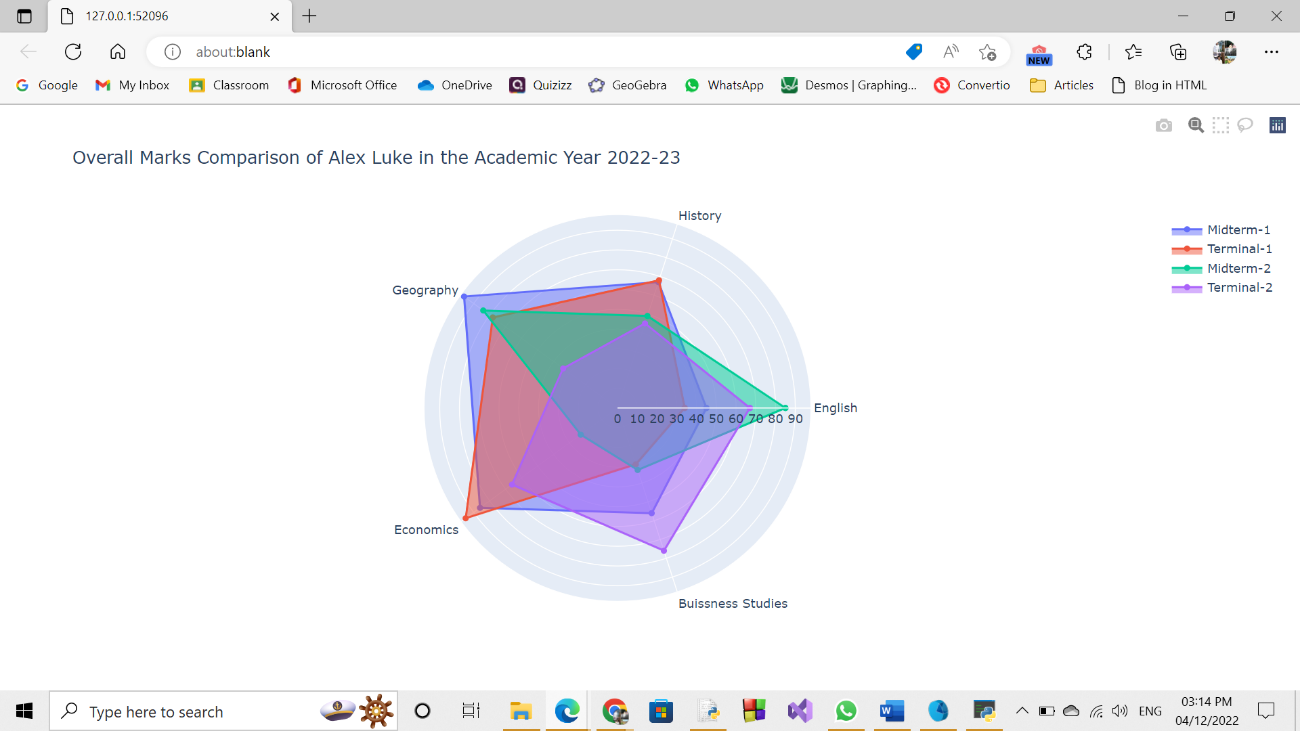
**Page after clicking the Submit Button**



**The Graph after clicking Comparison of Total Marks Button**



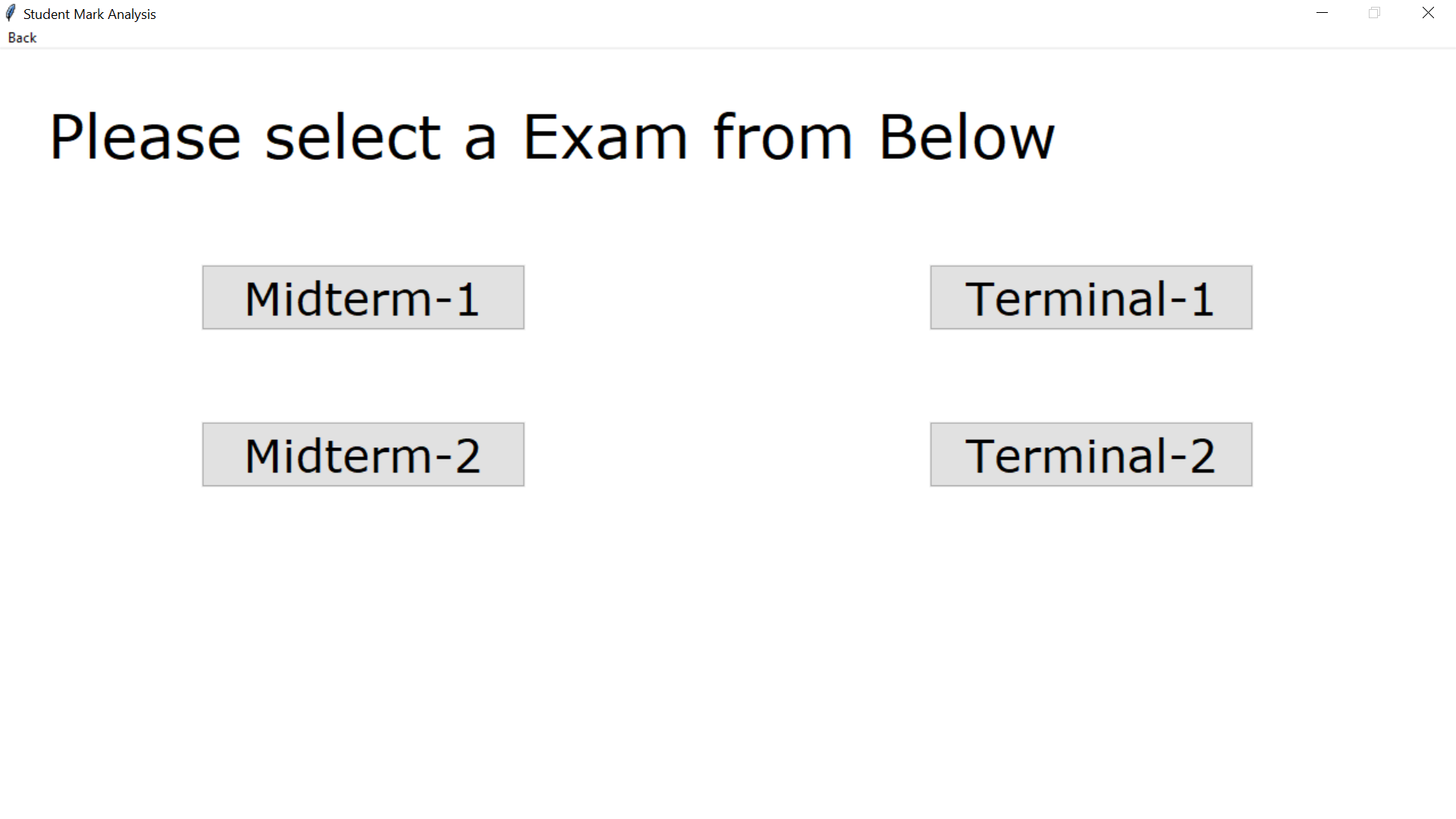
**The Graph after clicking Distribution of subject marks Button**



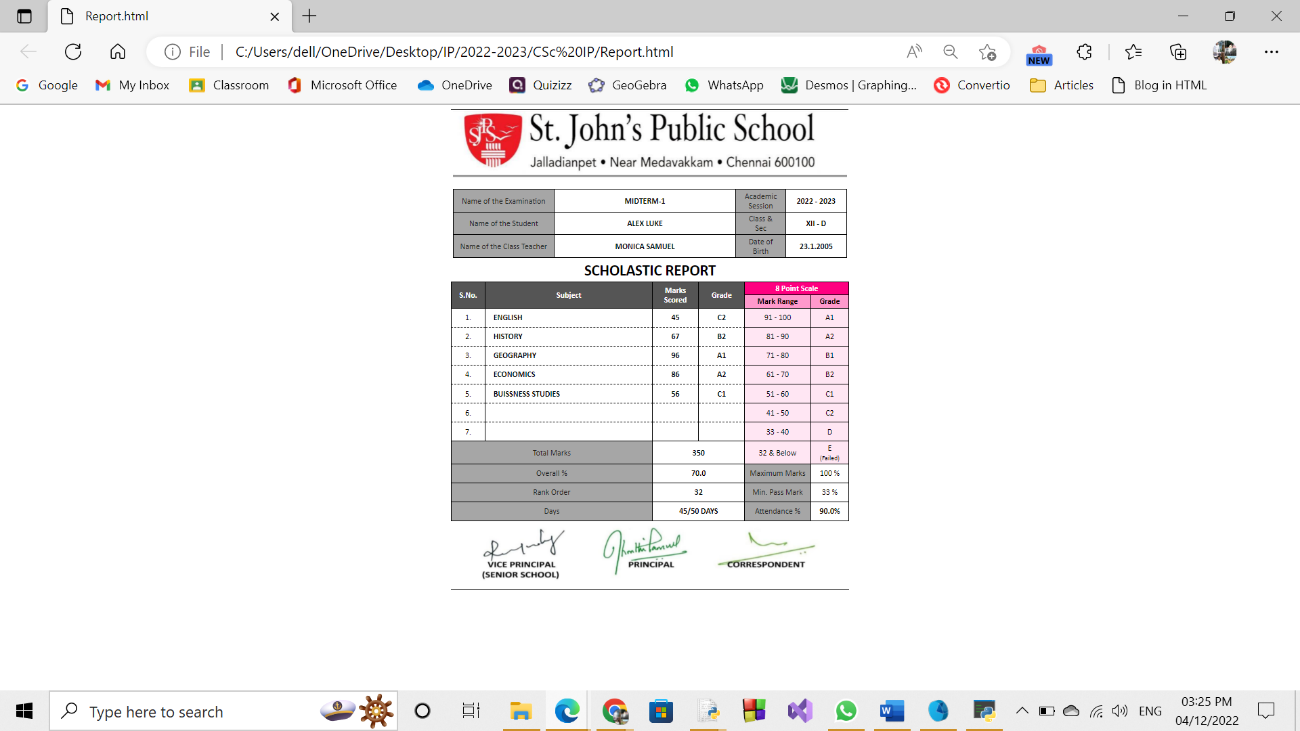
**The Graph after clicking Overall Academic Performance Button**



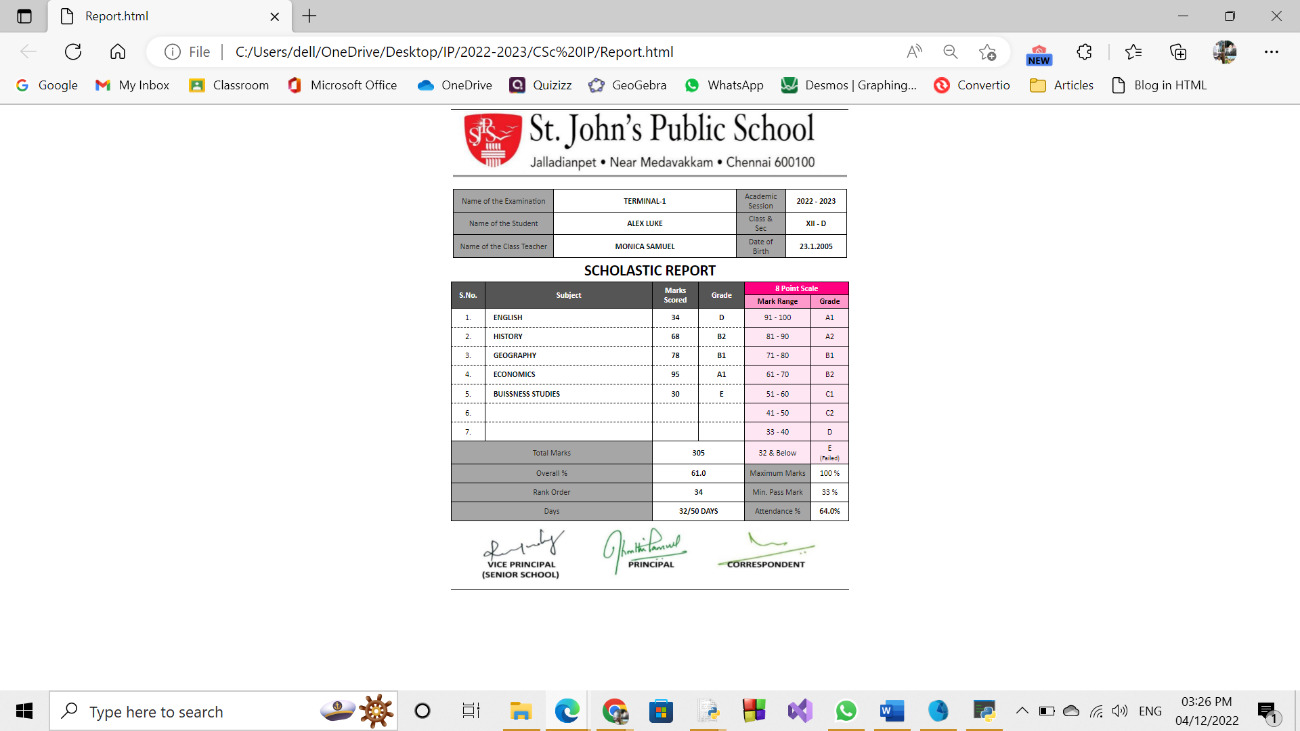
**The Graph after clicking Overall Performance in each subject Button**



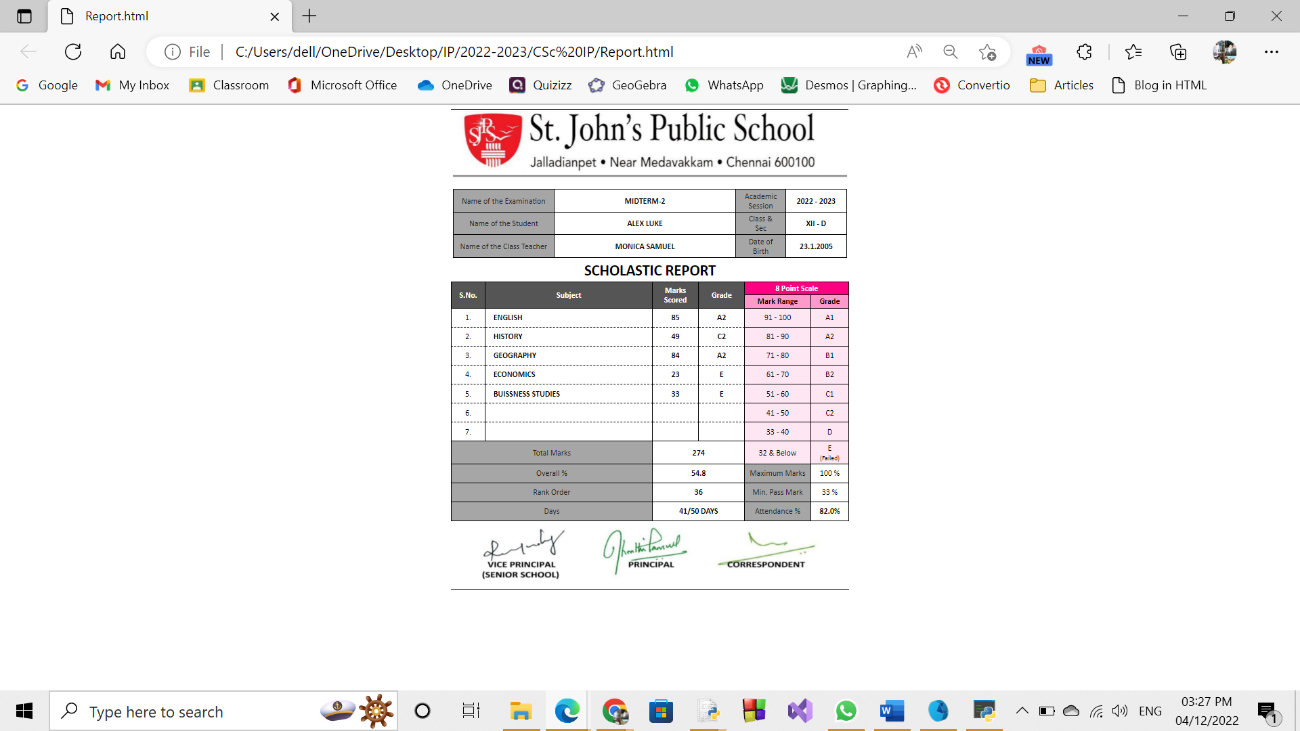
**The page after clicking Report Card Button**



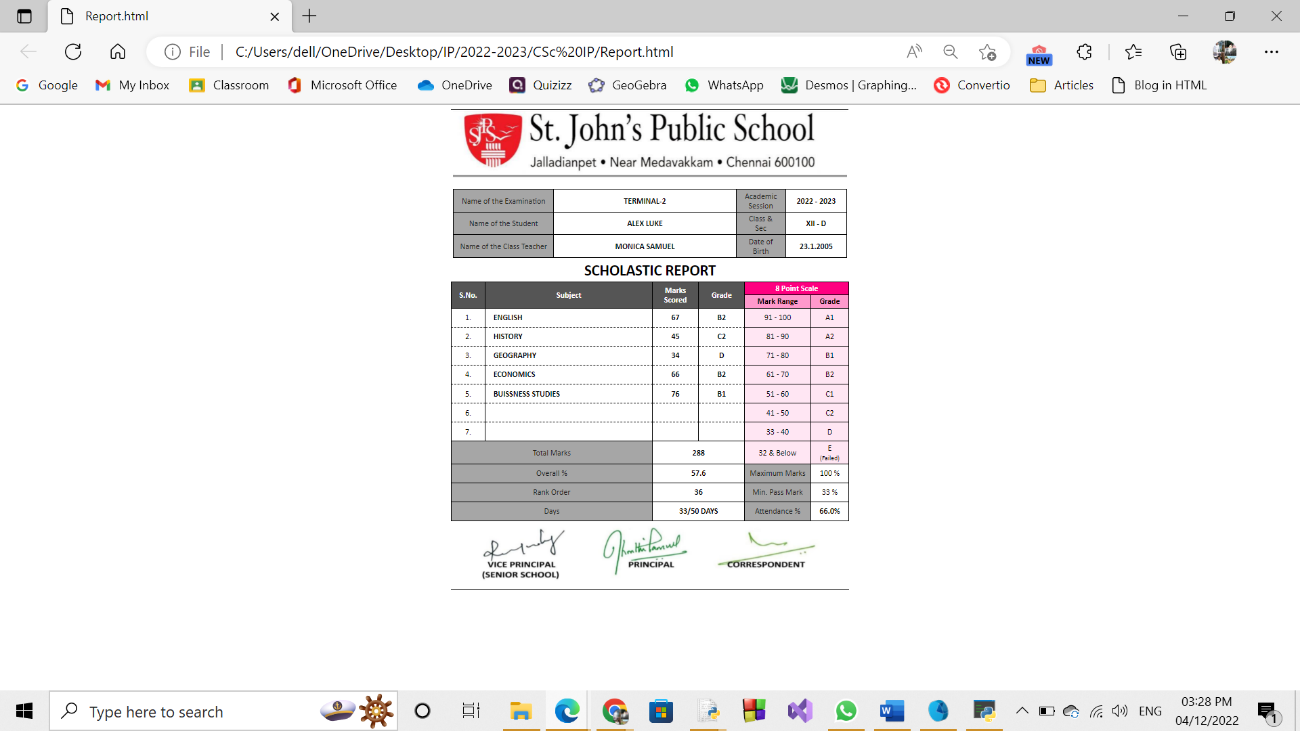
**The Report Card after clicking Midterm-1**



**The Report Card after clicking Terminal-1**

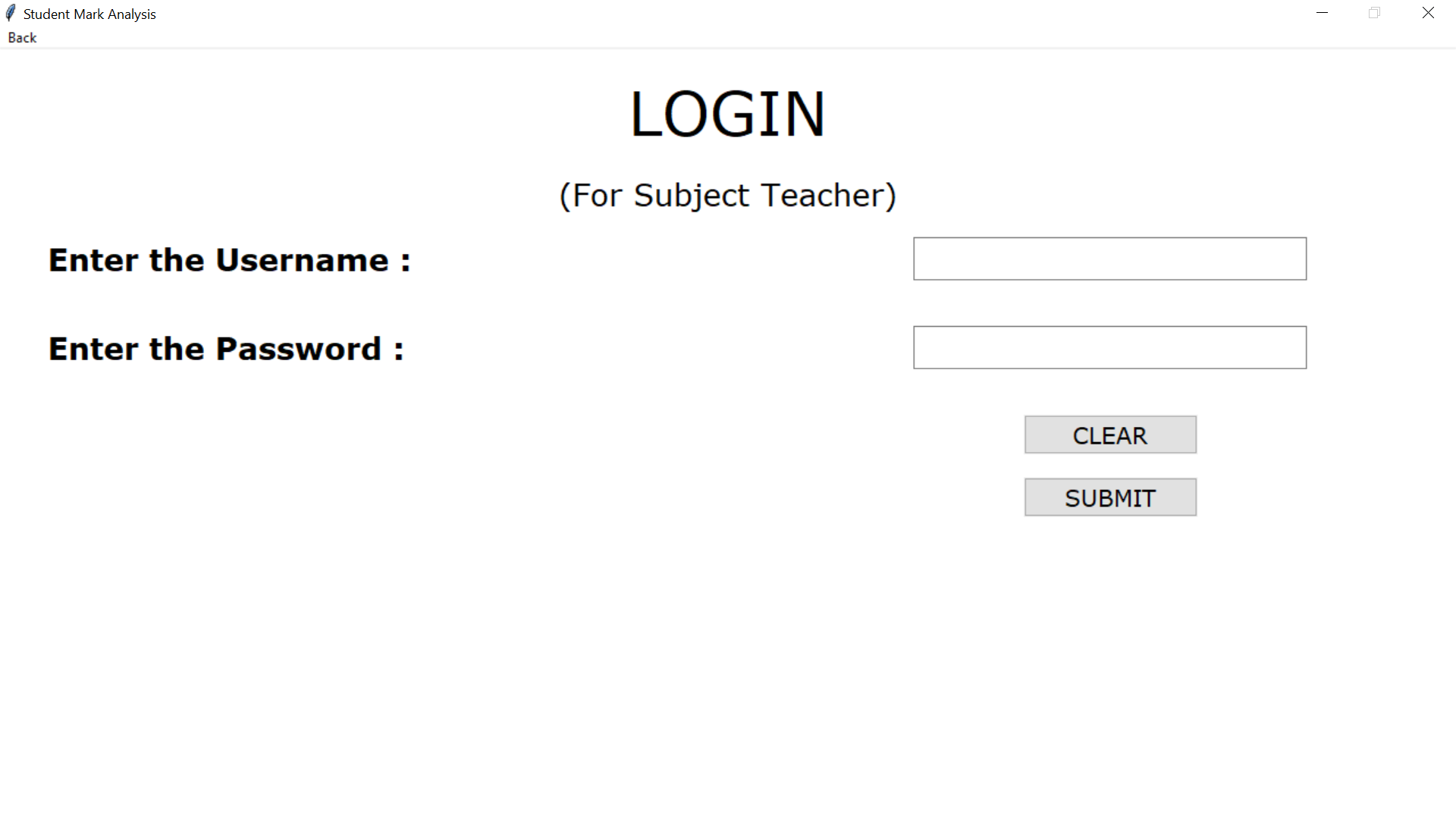


**The Report Card after clicking Midterm-2**

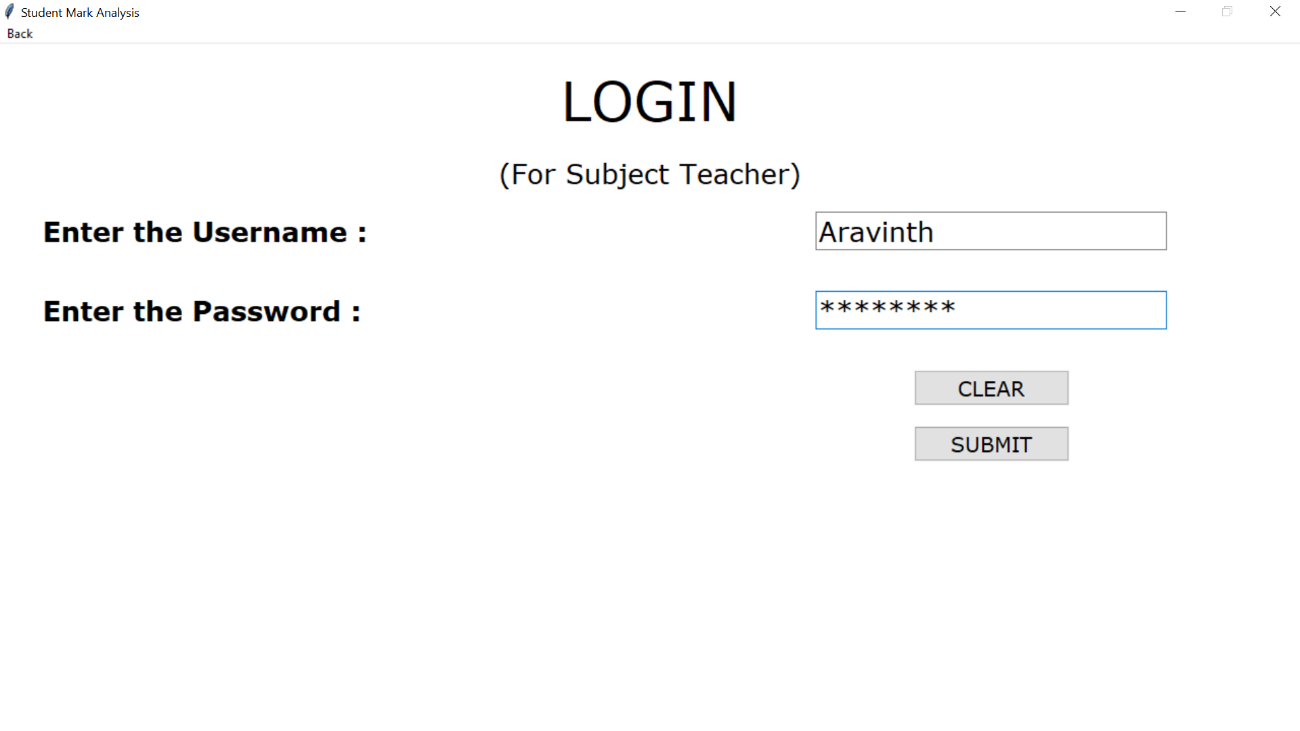


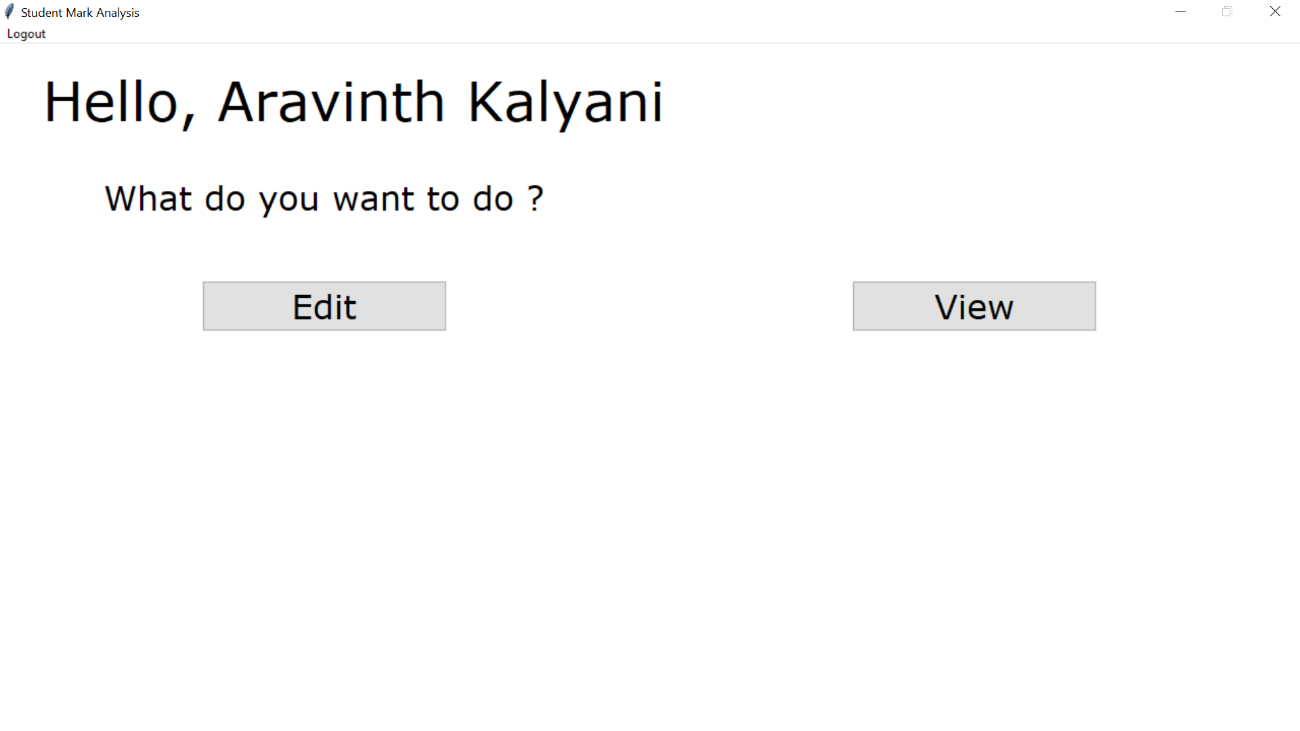
**The Report Card after clicking Terminal-2**

**Subject Teacher:**

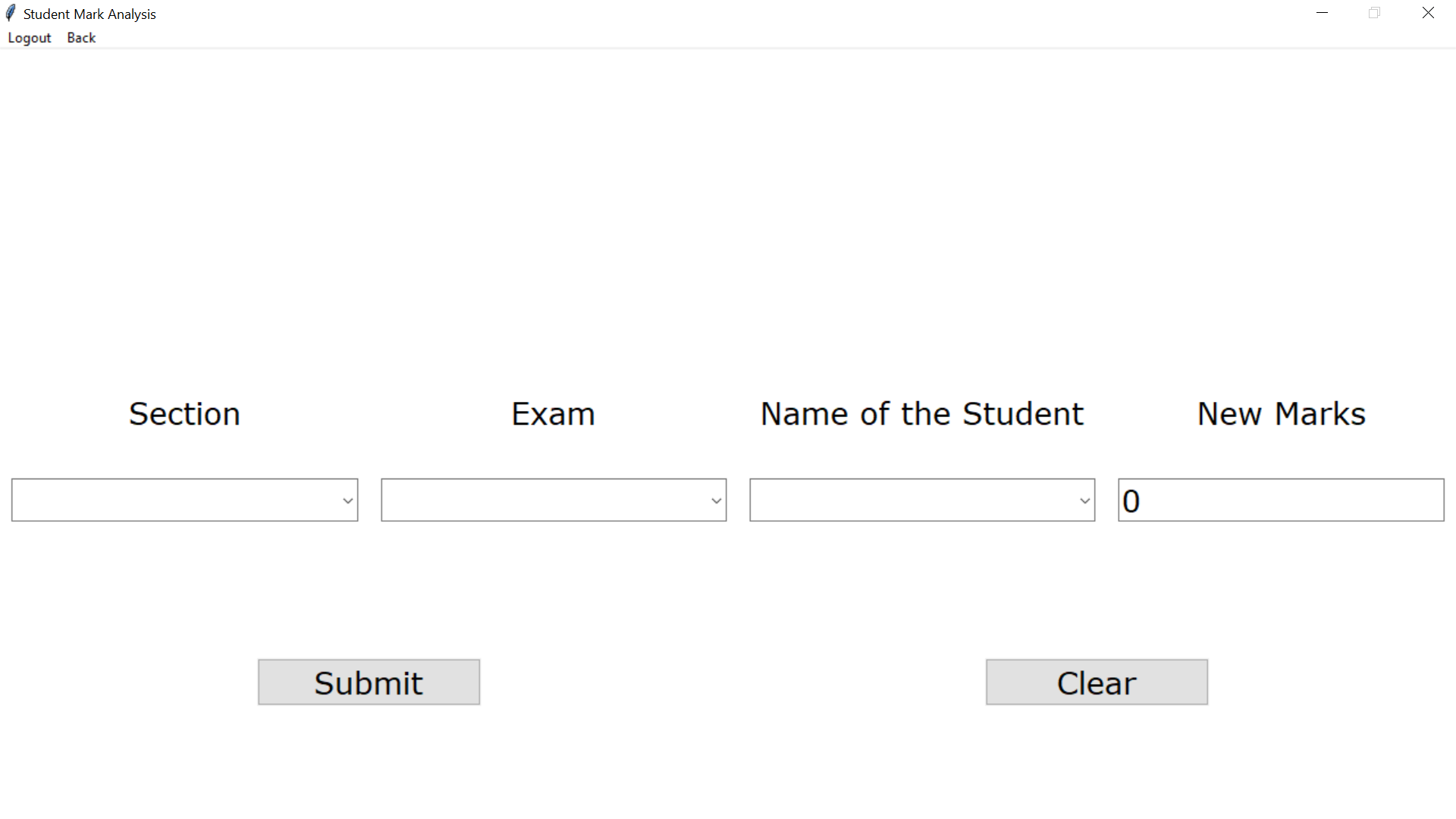


**Login Page of the Subject Teacher**

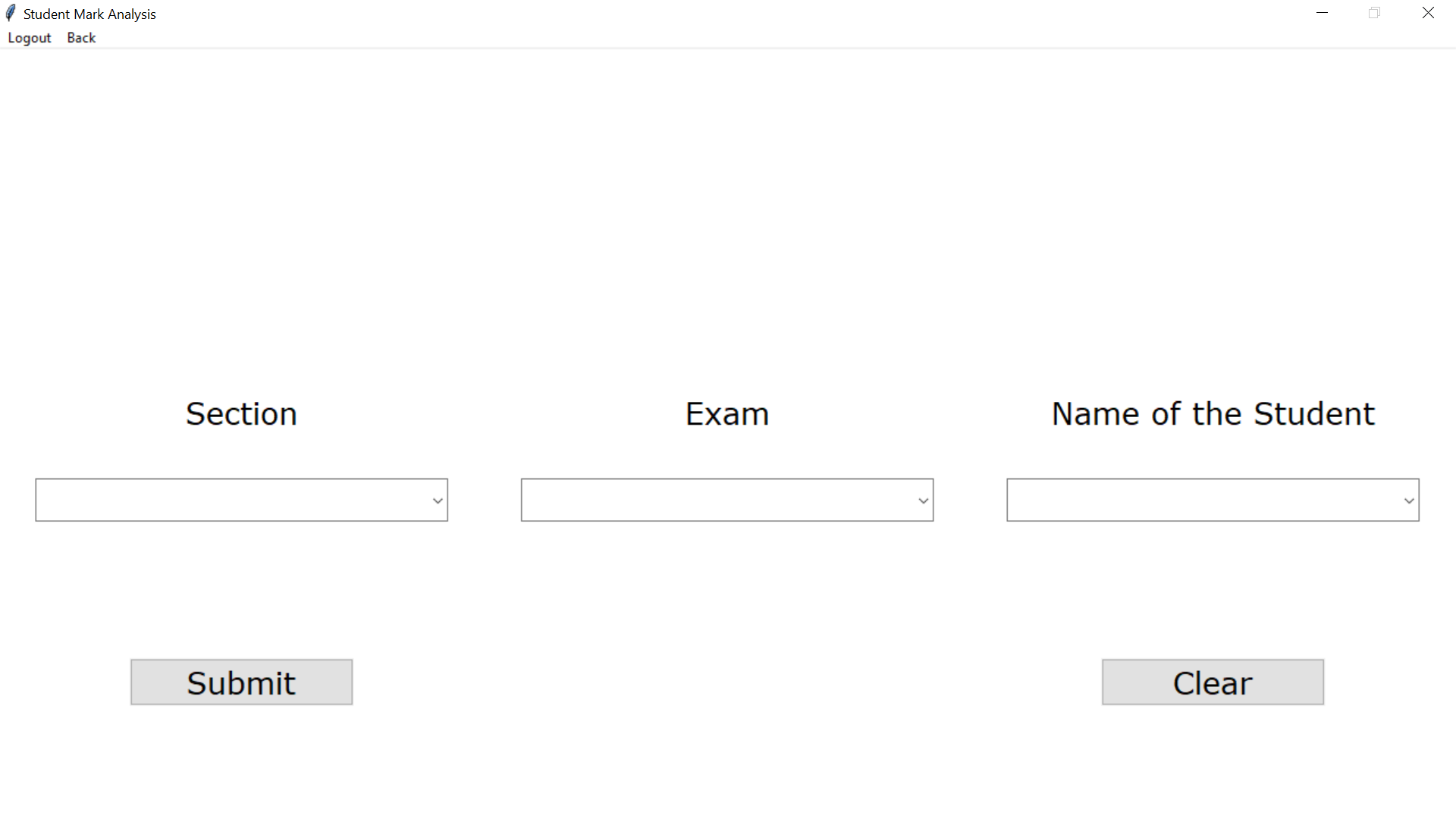




**Page after clicking the Submit Button**

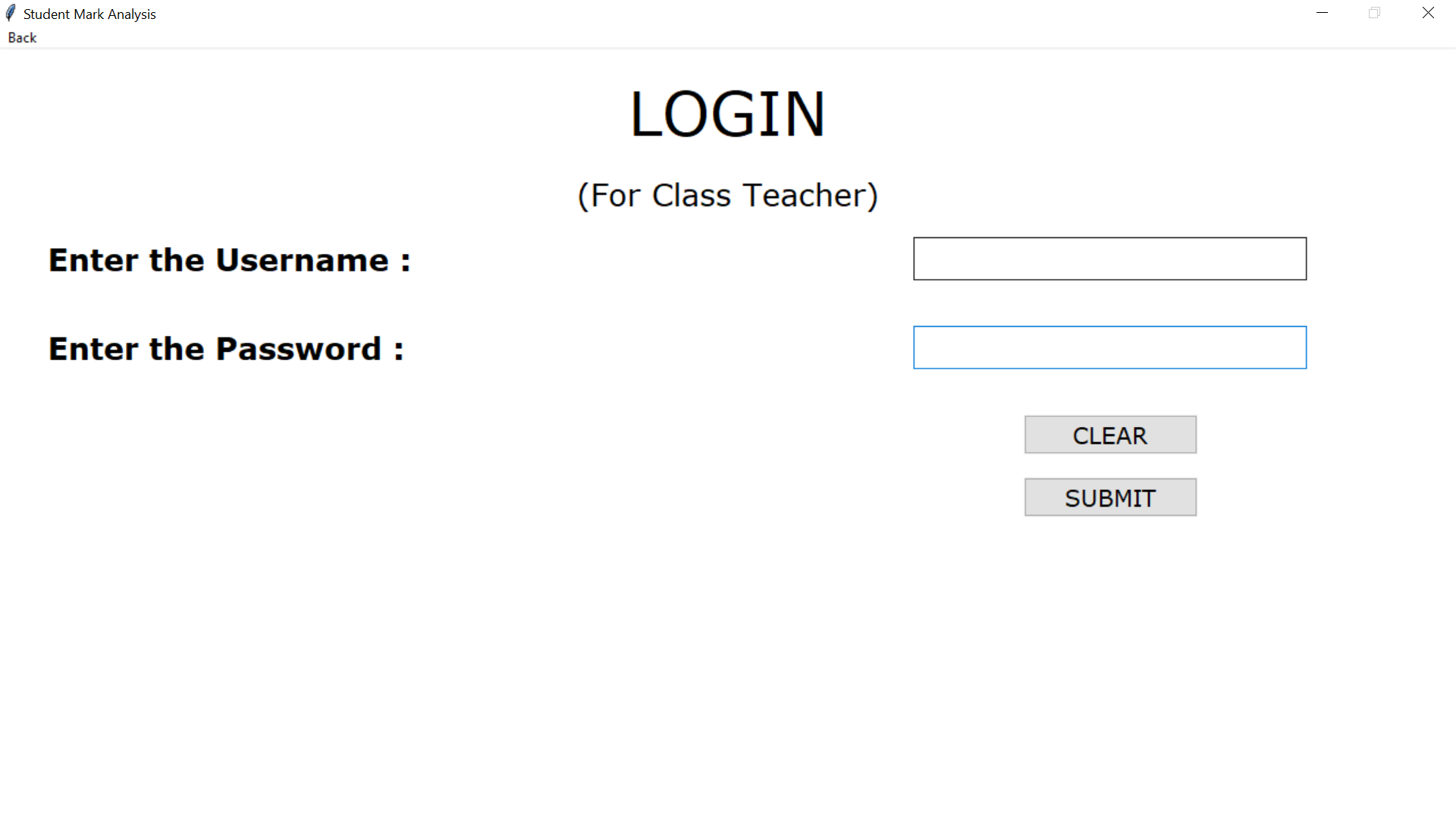


**Page after clicking the Edit Button**

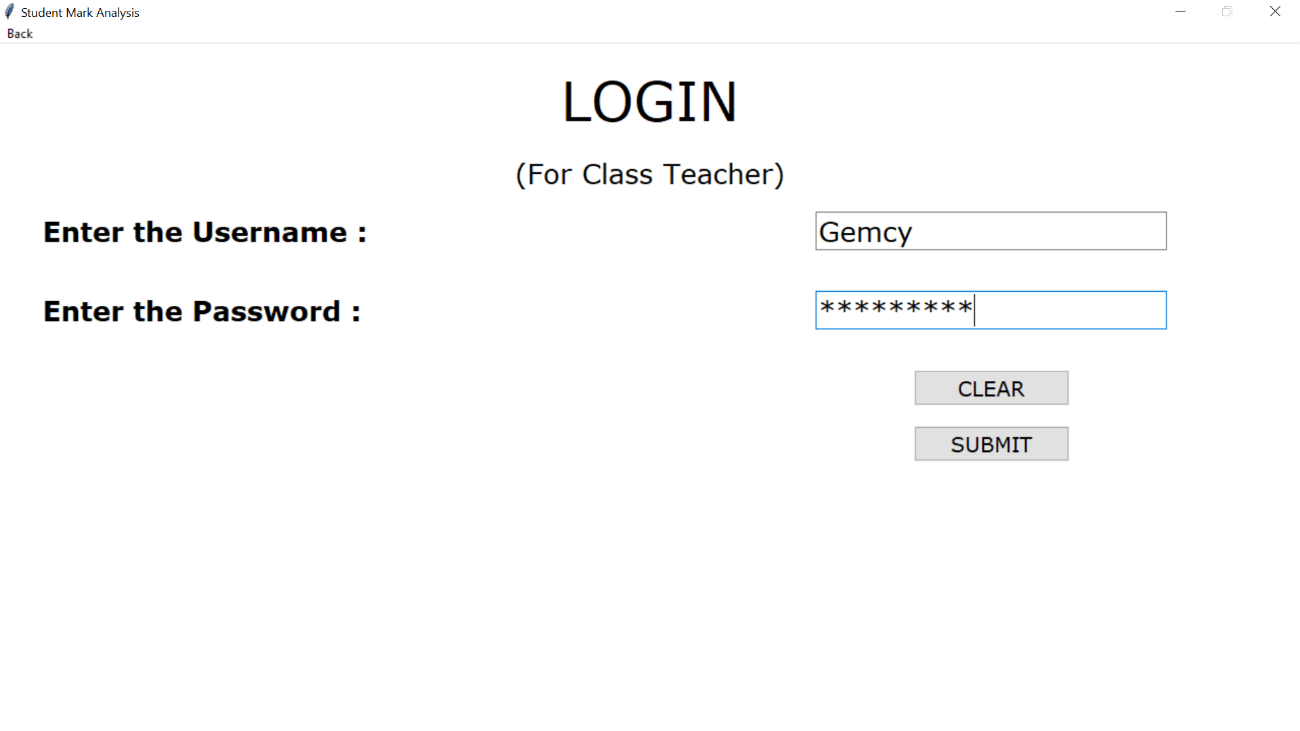


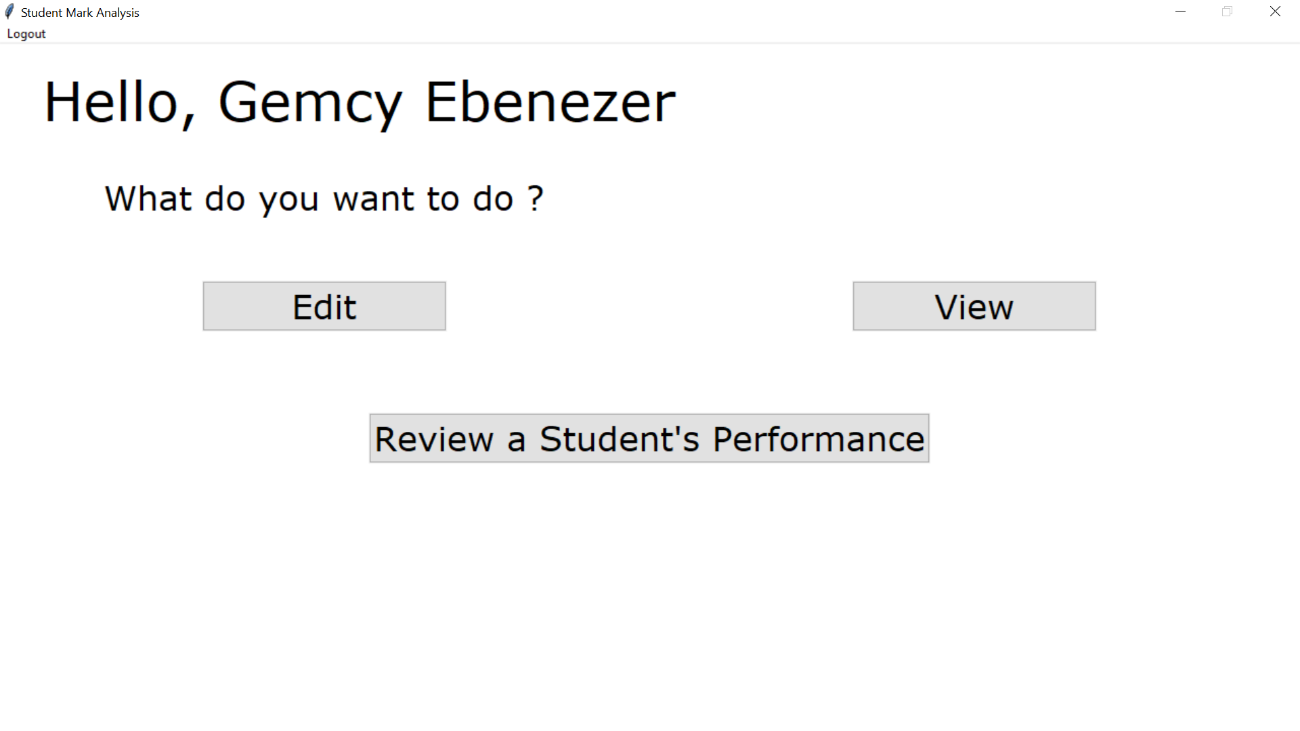
**Page after clicking the View Button**

**Class Teacher:**

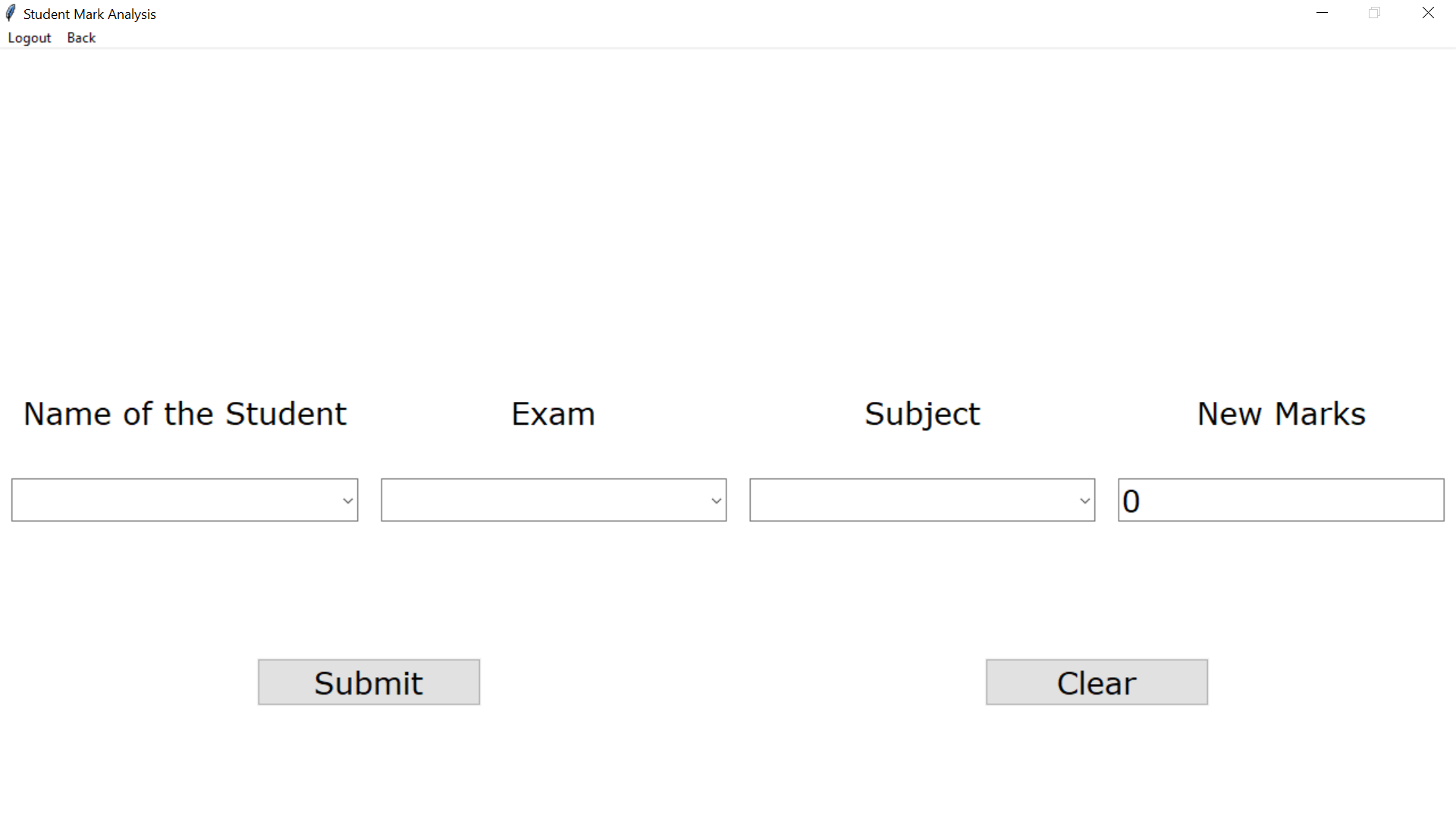


**Login Page of the Class Teacher**

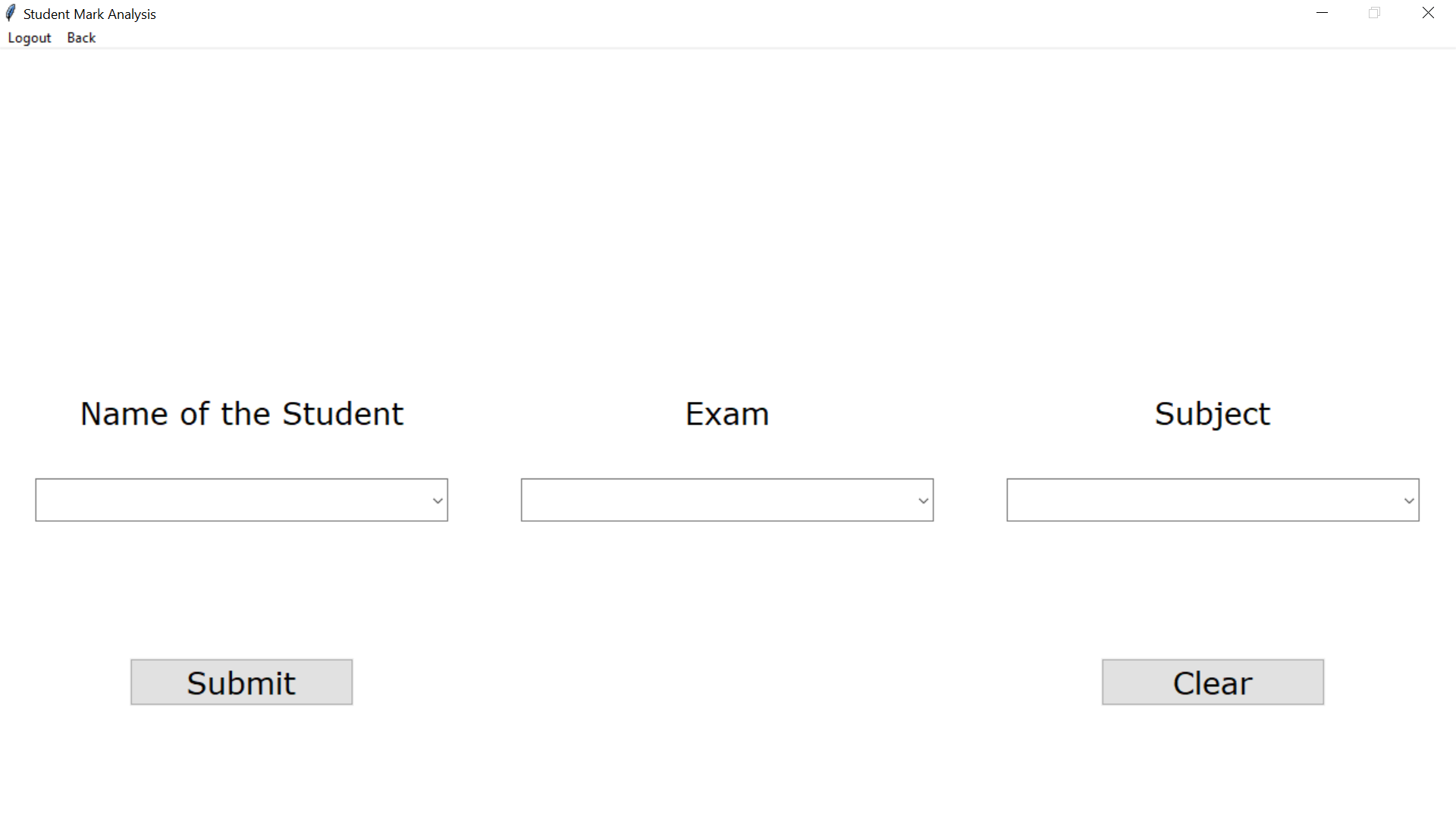




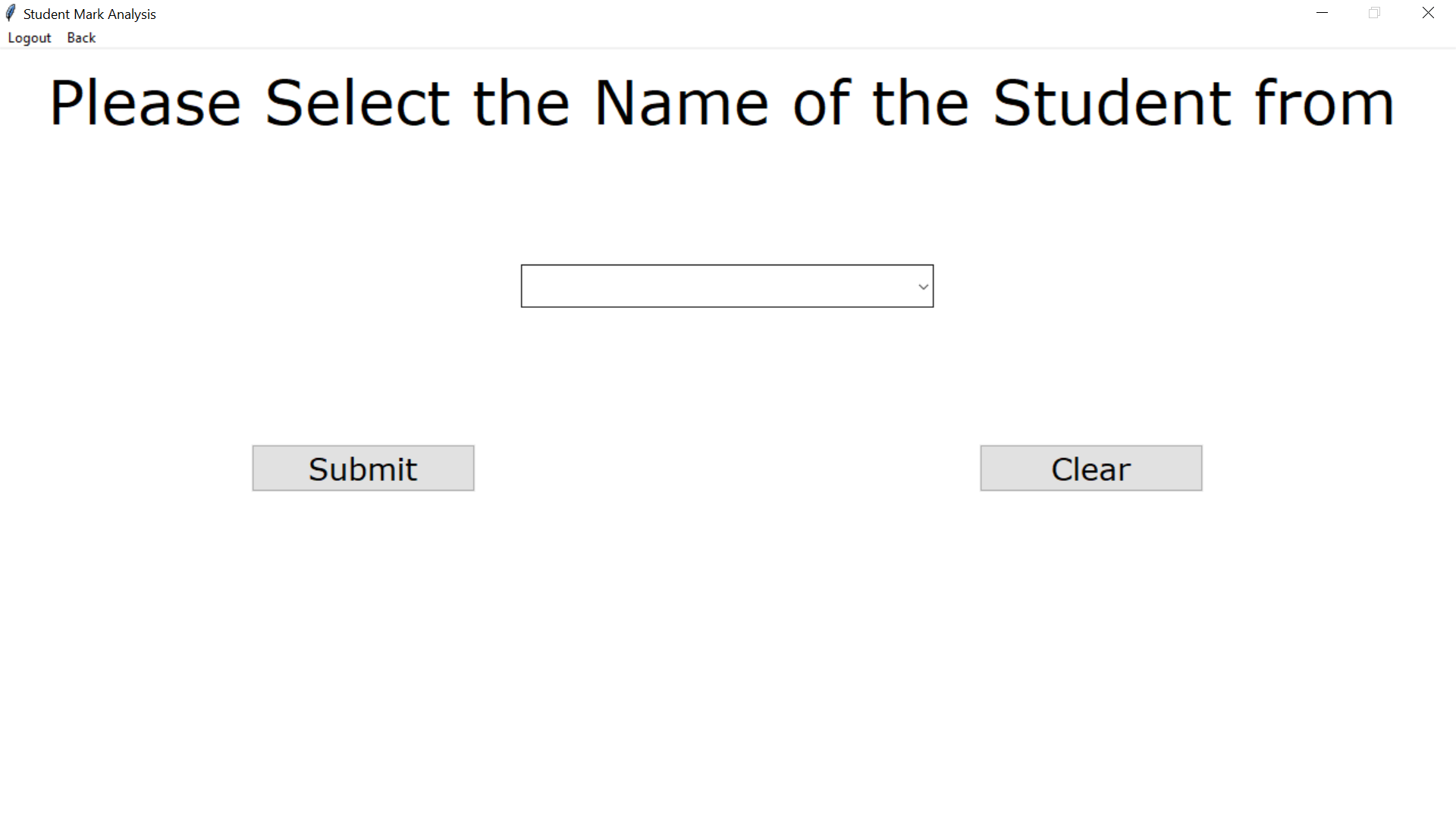
**Page after clicking the Submit Button**



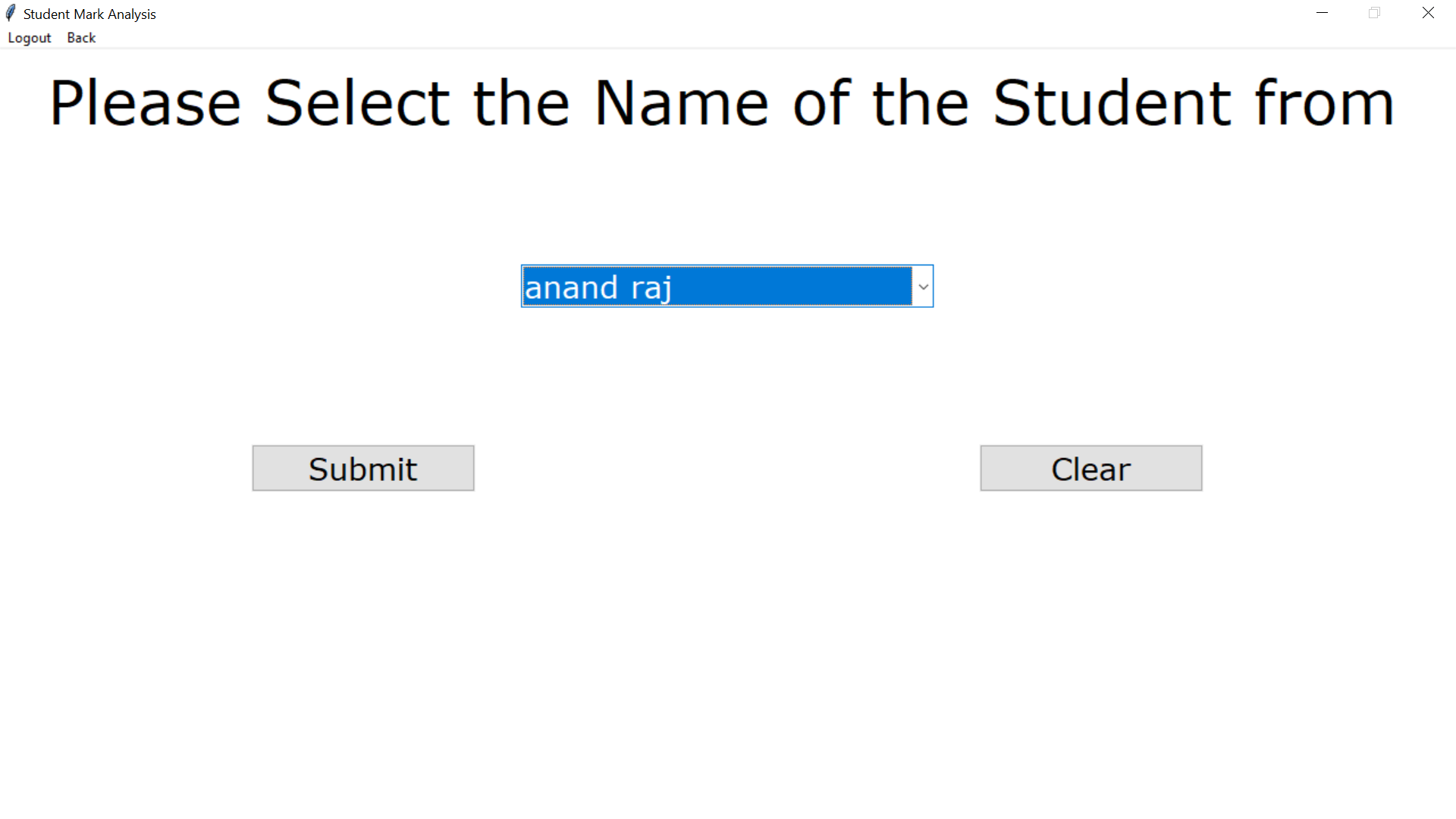
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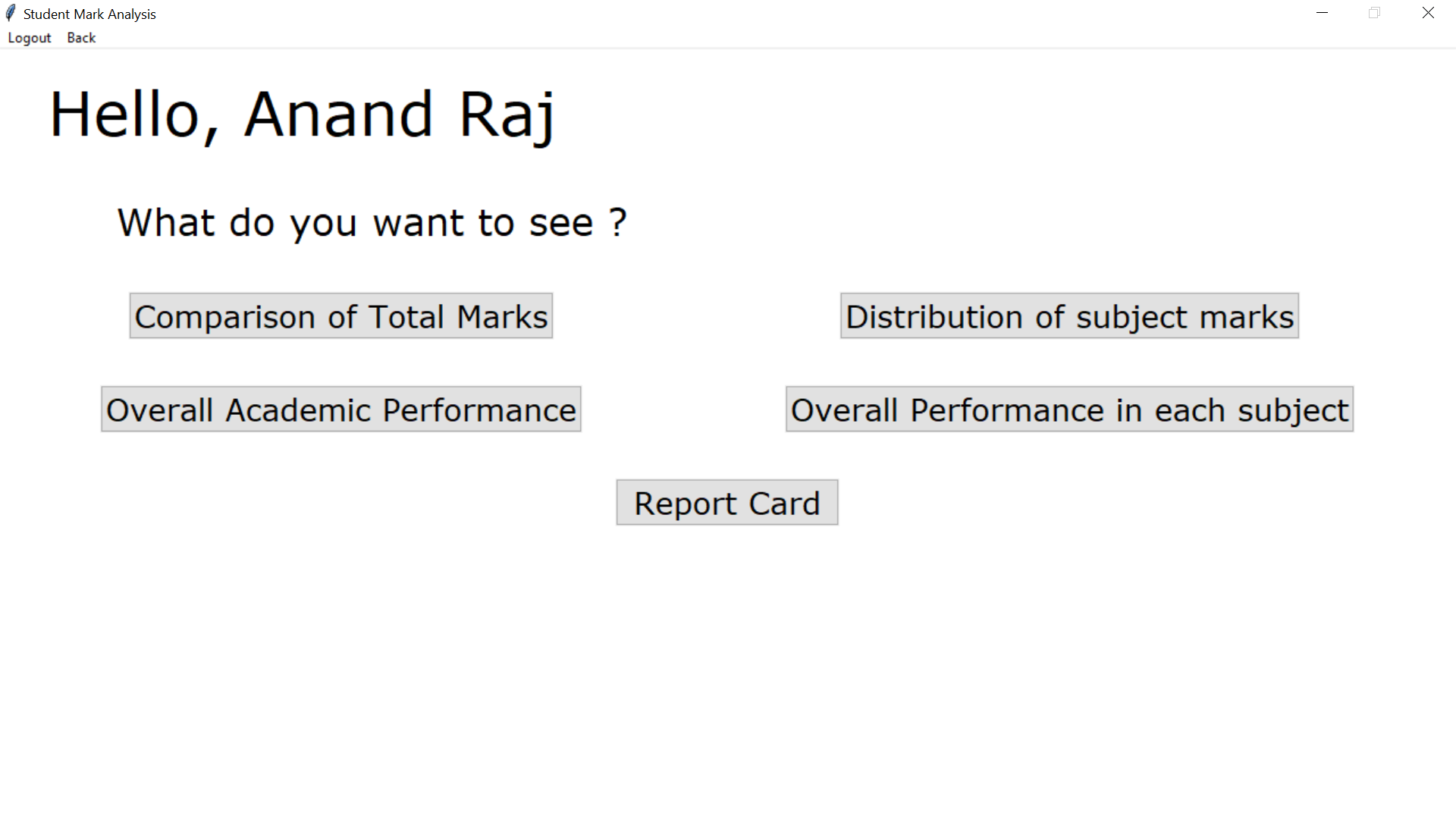


**Page after clicking the View Button**



**Page after clicking the Review a Student’s Performance Button**





**Page after clicking the Submit Button**

**ADVANTAGES OF THE PROJECT**

* 1. It helps the student to analyse their performance in the exam.
  2. It helps the parents to understand the learning progress of the child.
  3. It shows the improvement or downfall of the student in the current exam on comparing with the previous examinations.
  4. It compares the performance of the student with others of the same class, so they could really know where they stand.
  5. It helps the teachers to identify the potential of the students and train them accordingly.
  6. It improves the technical aspects of all subject teachers as this allows them to know more about the usage of computers.
  7. It is more efficient than the traditional report card/sheets.
  8. It helps in reducing a lot of work and saves the time of teachers who usually sit with sheets of data, trying to tally the student’s marks.
  9. Since the data (marks) is represented in pictorial form, students, parents and teachers tend to understand the learning trend of the student very easily.

**LIMITATIONS OF THE PROJECT**

1. The Project is slower because the data retrieval and processing is slow as Python is Interpreted Programming Language.
2. Adding New data tends to be more difficult.
3. The Project cannot run on other computers as it requires the pre-installation of various modules in Python.

**FURTHER DEVELOPMENT AREAS**

* Use of the programming language SQL, instead of Binary File, improves the maintenance of the marks, scored by the class XII students in all the examinations, efficiently.
* Multi-Processing can be used which will exponentially increase the performance of the Application.
* Use of the programming language SQL also improves the number of marks to be stored and the marks scored by each student of class XII can also be retrieved easily.
* Use of the markup language such as HTML along with the usage of CSS and programming language like JavaScript improves the user - interface of the Student Mark Analysis for the teachers and for the students of class XII as well.
* The Student Mark Analysis can also be extended for all the students in the whole school.

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