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Synopsis

Most schools will use a Student Management System (SMS) as their main tool to manage all their student records and administration. In addition to an SMS, most schools may also have a different system for admissions, a different one for classroom management and a few more for other key aspects of running a school.

Navigating this complex world of school technology can make your head spin. Some products have overlapping functionality, some claim to be “All-In-One” solutions, and others are solving problems you never even knew you had. As a result, trying to understand and figure out how all the systems work together with your main Student Information System can be a confusing task.

Student Management System (SMS) is a software solution designed to help schools track and manage all their student data – everything from grades, attendance, behavioural information and more.

This project is based on admission for students going to 11th from 10th based on his/her marks. In table 1, we are collecting the information of the his/her marks from the user and storing it. In table 2, we are grouping the students marks in groups according to their course. Subject wise toppers are also identified and grouped. Average marks of students is also calculated with the collected information. In table 3, we are checking the eligibility of the student to study the course opted by the student. This eligibility is checked with the comparison of his/her marks and the cut off marks needed for the course. If the comparison gets successful then the student will get the course opted or else he/she will get the course which is available.

STUDENT DATABASE MANAGEMENT SYSTEM

SOURCE CODE:

```
#####
#      * * *   Student Management System   * * *
#####

#Adding one Student record

def Add_Stu_Details():
    try:
        adno1=input("Enter Admission No : ")
        sname1=input("Enter Student Name : ")
        eng1=int(input("Enter English marks : "))
        lang1=int(input("Enter II Language marks : "))
        maths1=int(input("Enter Maths marks : "))
        sci1=int(input("Enter Science marks : "))
        social1=int(input("Enter Social Science marks : "))
        group1=input("Enter Preferred group by student IA/IB/IC/IIA : ")
        phone1=input("Enter Phone No. of the student : ")
        total_mark=int(eng1+lang1+maths1+sci1+social1)
        grp_all=Group_Allotment(total_mark,maths1,sci1,group1)

        Query=("INSERT INTO student (adno,sname,eng,lang,maths,sci,social,grp_pref,total_marks,allot_grp,phone)"
              "values(%s,%s,%s,%s,%s,%s,%s,%s,%s,%s,%s);")
        Record=(adno1,sname1,eng1,lang1,maths1,sci1,social1,group1,total_mark,grp_all,phone1)
        MyCur.execute(Query,Record)
        print(MyCur.rowcount, "Record inserted in student Table successfully")

    except mysql.connector.Error as err:
        print("Unable to add the record")
        print("Error Code:", err.errno)
        print("SQLSTATE", err.sqlstate)
        print("Message", err.msg)

#####
#Displaying All the Student records

def Show_Stu_Details():
    try:
        Query= ("SELECT * FROM student;")
        MyCur.execute(Query)
        print ("Adno\tName\tEng\tII Lang\tMaths\tSci\tSoc\tGrp_Pref\tTotal\tGrpAllot\tPhone\t\n")
        for(adno,sname,eng,lang,maths,sci,social,grp_pref,total_marks,allot_grp,phone) in MyCur:
            print(adno ,end="\t")
            print(sname,end="\t")
            print(eng,end="\t")
            print(lang,end="\t")
            print(maths,end="\t")
            print(sci,end="\t")
            print(social,end="\t")
            print(grp_pref,end="\t")
            print(total_marks,end="\t")
            print(allot_grp,end="\t")
            print(phone,end="\n")
        print("Total number of records: ",MyCur.rowcount)

    except mysql.connector.Error as err:
        print("Unable to show student details")
        print("Error Code:", err.errno)
        print("SQLSTATE", err.sqlstate)
        print("Message", err.msg)

#####
#Searching for a particular student record

def Search_Stu_Details():
    try:
        found=0
        temp_adno=input("Enter Admission Number  to be Searched :")

        Query= ("SELECT * FROM student WHERE  adno= %s")
        rec_srch=(temp_adno,)
        MyCur.execute(Query,rec_srch)

        for(adno,sname,eng,lang,maths,sci,social,grp_pref,total_marks,allot_grp,phone) in MyCur:
            print ("Adno\tName\tEng\tII Lang\tMaths\tSci\tSoc\tGrp_Pref\tTotal\tGrpAllot\tPhone\t")
            print(adno ,end="\t")
            print(sname,end="\t")
            print(eng,end="\t")
            print(lang,end="\t")
            print(maths,end="\t")
            print(sci,end="\t")
            print(social,end="\t")
            print(grp_pref,end="\t")
```

STUDENT DATABASE MANAGEMENT SYSTEM

```
        print(total_marks,end="\t")
        print(allot_grp,end="\t")
        print(phone,end="\t")
        found=1
    if (found==0):
        print ("Record not found")

except mysql.connector.Error as err:
    print("Unable to search student details")
    print("Error Code:", err.errno)
    print("SQLSTATE", err.sqlstate)
    print("Message", err.msg)

#####
#Updating a student record based on Admission number

def Update_Stu_Details():
    try:
        found = 0
        temp_adno=input("Enter Admission Number to be Updated: ")

        Query= (" SELECT * FROM student WHERE adno= %s;")
        rec_srch=(temp_adno,)
        MyCur.execute(Query,rec_srch)

        for(adno) in MyCur:
            print("Input New Data ")
            sname1=input("Enter Student Name : ")
            eng1=int(input("Enter English marks : "))
            lang1=int(input("Enter II Language marks : "))
            maths1=int(input("Enter Maths marks : "))
            sci1=int(input("Enter Science marks : "))
            social1=int(input("Enter Social Science marks : "))
            group1=input("Enter Preferred group by student IA/IB/IC/IIA : ")
            phone1=input("Enter Phone No. of the student : ")

            total_marks=eng1+lang1+maths1+sci1+social1
            grp_all=Group_Allotment(total_marks,maths1,sci1,group1)

            Q=("UPDATE student SET sname=%s,eng=%s,lang=%s,maths=%s,"
              "sci=%s,social=%s,grp_pref=%s,total_marks=%s,allot_grp=%s,phone=%s WHERE adno=%s;")
            D=(sname1,eng1,lang1,maths1,sci1,social1,group1,total_marks,grp_all,phone1,rec_srch[0])

            MyCur.execute(Q,D)
            print("Record has been updated in student table")
            found=1

        if (found==0):
            print("Record not found")

    except mysql.connector.Error as err:
        print("Unable to update student details")
        print("Error Code:", err.errno)
        print("SQLSTATE", err.sqlstate)
        print("Message", err.msg)

#####
#Deleting all records or a particular record based on admission number

def Del_Stu_Details():
    try:
        ch=input("Do you want to delete all records y/n: ")
        if (ch.lower() == 'y'):
            Q= ("TRUNCATE TABLE student ;")
            MyCur.execute(Q)
            mycon.commit()
        else:
            found=0
            temp_adno=input("Enter Admission Number to be Deleted :")
            Query= (" SELECT * FROM student WHERE adno= %s;")
            rec_srch=(temp_adno,)
            MyCur.execute(Query,rec_srch)

            for(adno) in MyCur:
                found=1
                Q= (" DELETE FROM student where adno= %s;")
                MyCur.execute(Q,rec_srch)
                mycon.commit()
                print("Record has been deleted from student table ")
            if (found==0):
                print("Record not found")

    except mysql.connector.Error as err:
        print("Unable to delete student record")
        print("Error Code:", err.errno)
        print("SQLSTATE", err.sqlstate)
```

STUDENT DATABASE MANAGEMENT SYSTEM

```
print("Message", err.msg)

#####
#Option for Student records

def Student_Menu():
    while True:
        print("\n\t\t * * * S T U D E N T M E N U * * * ")
        print("\t\t-----")
        print("1 : Add Student Details ")
        print("2 : Show Student Details ")
        print("3 : Search Student Details ")
        print("4 : Update Student Details ")
        print("5 : Delete Student Details ")
        print("6 : Return to MAIN MENU...")
        print("\t\t-----")
        choice=int(input("Enter Your Choice 1-6 :"))

        if choice==1:
            Add_Stu_Details()
        elif choice==2:
            Show_Stu_Details()
        elif choice==3:
            Search_Stu_Details()
        elif choice==4:
            Update_Stu_Details()
        elif choice==5:
            Del_Stu_Details()
        elif choice==6:
            return
        else:
            print("!!!!Error : Invalid Choice try again....!!!!")
            conti=input("Press any key return to Continue..")

#####
#Displaying group allotment for students

def Show_Group_Allotment():
    try:
        Query= ("SELECT * FROM student;")
        MyCur.execute(Query)
        print ("Adno\tName\tTotal_marks\tPref_grp\tGrp_Allot")
        data=MyCur.fetchall()

        for rec in data:
            print(rec[0],end="\t")
            print(rec[1],end="\t")
            print(rec[8],end="\t")
            print(rec[7],end="\t")
            print(rec[9],end="\t\n")

    except mysql.connector.Error as err:
        print("Unable to show group for students")
        print("Error Code:", err.erno)
        print("SQLSTATE", err.sqlstate)
        print("Message", err.msg)

#####
#Displaying Admission criteria

def Show_Adm_Criteria():
    print ("\nAdmission for students")
    print ("Group\tGroup_Sub\tCutoff\tMaths\tScience")
    print ("IA\tMaths_Bio\t>=%s\t>=%s\t>=%s" % (cutoff, math_cutoff,sci_cutoff))
    print ("IB\tMaths_CS\t>=%s\t>=%s\t>=%s" % (cutoff, math_cutoff,sci_cutoff))
    print ("IC\tPure_sci\t>=%s\t-->=%s" % (cutoff, sci_cutoff))
    print ("IIA\tCommerce\t>=%s\t>=%s\t-->" % (cutoff, math_cutoff))
    print ("NA\tNo_Admission\t<%s\t-->-->" % (cutoff))

#####
#Modifying admission criteria

def Modify_Adm_Criteria():
    global cutoff
    global math_cutoff
    global sci_cutoff
    cutoff=int(input("Enter the cut_off value: "))
    math_cutoff=int(input("Enter the Maths cut_off value: "))
    sci_cutoff=int(input("Enter the Sci cut_off value: "))

#####
#Menu for Admission

def Admission_Menu():
    while True:
        print("\n\t\t * * * A D M I S S I O N M E N U * * * ")
```

STUDENT DATABASE MANAGEMENT SYSTEM

[illegible]

STUDENT DATABASE MANAGEMENT SYSTEM

```
print("6 : Return to MAIN MENU...")
print("\t\t-----")
choice=int(input("Enter Your Choice 1-6 :"))

if choice == 1:
    Query= ("SELECT adno, sname, eng,"
            "FIND_IN_SET(eng,(SELECT GROUP_CONCAT(DISTINCT eng "
            "ORDER BY eng DESC) FROM student)) as srnk FROM student ORDER BY srnk;")
    MyCur.execute(Query)
    print("\n\t English Toppers")
    print ("Rank\tAdno\tName\t\tEng Marks\t")
    for(adno,sname,eng,srnk) in MyCur:
        if (srnk <=3):
            print(srnk,end="\t")
            print(adno ,end="\t")
            print(sname,end="\t\t")
            print(eng,end="\t\n")

if choice == 2:
    Query= ("SELECT adno, sname, lang,"
            "FIND_IN_SET(lang,(SELECT GROUP_CONCAT(DISTINCT lang "
            "ORDER BY lang DESC) FROM student)) as srnk FROM student ORDER BY srnk;")
    MyCur.execute(Query)
    print("\n\t Language Toppers")
    print ("Rank\tAdno\tName\t\tLang Marks\t")
    for(adno,sname,lang,srnk) in MyCur:
        if (srnk <=3):
            print(srnk,end="\t")
            print(adno ,end="\t")
            print(sname,end="\t\t")
            print(lang,end="\t\n")

if choice == 3:
    Query= ("SELECT adno, sname, maths,"
            "FIND_IN_SET(maths,(SELECT GROUP_CONCAT(DISTINCT maths "
            "ORDER BY maths DESC) FROM student)) as srnk FROM student ORDER BY srnk;")
    MyCur.execute(Query)
    print("\n\t Math Toppers")
    print ("Rank\tAdno\tName\t\tMaths Marks\t")
    for(adno,sname,maths,srnk) in MyCur:
        if (srnk <=3):
            print(srnk,end="\t")
            print(adno ,end="\t")
            print(sname,end="\t\t")
            print(maths,end="\t\n")

if choice == 4:
    Query= ("SELECT adno, sname, sci,"
            "FIND_IN_SET(sci,(SELECT GROUP_CONCAT(DISTINCT sci "
            "ORDER BY sci DESC) FROM student)) as srnk FROM student ORDER BY srnk;")
    MyCur.execute(Query)
    print("\n\t Science Toppers")
    print ("Rank\tAdno\tName\t\tScience Marks\t")
    for(adno,sname,sci,srnk) in MyCur:
        if (srnk <=3):
            print(srnk,end="\t")
            print(adno ,end="\t")
            print(sname,end="\t\t")
            print(sci,end="\t\n")

if choice == 5:
    Query= ("SELECT adno, sname, social,"
            "FIND_IN_SET(social,(SELECT GROUP_CONCAT(DISTINCT social "
            "ORDER BY social DESC) FROM student)) as srnk FROM student ORDER BY srnk;")
    MyCur.execute(Query)
    print("\n\t Social Science Toppers")
    print ("Rank\tAdno\tName\t\tSocial Marks\t")
    for(adno,sname,social,srnk) in MyCur:
        if (srnk <=3):
            print(srnk,end="\t")
            print(adno ,end="\t")
            print(sname,end="\t\t")
            print(social,end="\t\n")

elif choice==6:
    return

elif choice >6:
    print("!!!!Error : Invalid Choice try again....!!!!")
    conti=input("Press any key return to Continue..")

except mysql.connector.Error as err:
    print("Unable to show subject toppers")
    print("Error Code:", err.errno)
    print("SQLSTATE", err.sqlstate)
    print("Message", err.msg)
```

STUDENT DATABASE MANAGEMENT SYSTEM

```
#^
#Menu for Toppers list

def Toppers_Menu():
    while True:
        print("\n\t\t* * * * T O P P E R S M E N U * * * *")
        print("\n\t\t-----")
        print("1 : Show School Toppers ")
        print("2 : Show Subject Toppers")
        print("3 : Return to MAIN MENU...")
        print("\n\t\t-----")
        choice=int(input("Enter Your Choice 1-3 :"))

        if choice==1:
            Show_School_Toppers()
        elif choice==2:
            Show_Subject_Toppers()
        elif choice==3:
            return
        else:
            print("!!!!Error : Invalid Choice try again.....!!!!")
            conti=input("Press any key return to Continue..")

#^
#*****main program*****

import datetime
import mysql.connector
from mysql.connector import errorcode
from mysql.connector import connection
cutoff=400
math_cutoff=85
sci_cutoff=85
mydb = mysql.connector.connect(
    host='localhost',
    user='root',
    password=""
)

MyCur = mydb.cursor()

MyCur.execute("CREATE DATABASE IF NOT EXISTS studentmgm;")
MyCur.execute("USE studentmgm;")

MyCur.execute("CREATE TABLE IF NOT EXISTS student (adno VARCHAR(20) PRIMARY KEY,"
    "sname VARCHAR(40),eng INT,lang INT,maths INT,sci INT,social INT,grp_pref VARCHAR (3),"
    "total_marks INT,allot_grp VARCHAR(3),phone VARCHAR(15));")

print("\n")
today = datetime.datetime.today()
print(f"Today: %B %d, %Y")

while True:
    print("\n\t\t-----")
    print("\n\t\t* * * * Welcome to Student Management Program * * * *")
    print("\n\t\t-----")
    print("\n\t\t* * * * A B C S c h o o l - M A I N M E N U * * * *")
    print("1 : Student Details")
    print("2 : Toppers List")
    print("3 : Admission Process")
    print("4 : Exit")
    print("\n\t\t-----")

    choice=int(input("Enter Your Choice : "))

    if choice==1:
        Student_Menu()
    elif choice==2:
        Toppers_Menu()
    elif choice==3:
        Admission_Menu()
    elif choice==4:
        break
    else:
        print("!!!!Error : Invalid Choice try again.....!!!!")
        key=input("Press any key to continue...")

MyCur.close()
```


BENEFITS :

- 1.)Better Performance by Students Simplifying & Streamlining all.
- 2.)Tasks Easy Access to All.
- 3.)Better Communication.
- 4.)Helps To Keep Track Of All Students .

WORK CONTRIBUTION:

NAME	REGISTER NO.	CONTRUBTION
S.K ANULATHA	2021115014	BASIC SQL QUERIES
K.VISHNU PRIYA	2021115121	SQL SUBQUERIES
VISHAL RAJ VELLAISAMY	2021115120	PYTHON(FRONT END)
S.R.SUBASREE	2021115110	CONNECTION BETWEEN PYTHON AND SQL & CERTAIN PYTHON FUNCTIONS.

STUDENT DATABASE MANAGEMENT SYSTEM

OUTPUTS:

```

      * * * * S T U D E N T   M E N U   * * * *
-----
1 : Add Student Details
2 : Show Student Details
3 : Search Student Details
4 : Update Student Details
5 : Delete Student Details
6 : Return to MAIN MENU...
-----
Enter Your Choice 1-6 :1
Enter Admission No : 132
Enter Student Name : Vishnu
Enter English marks : 99
Enter II Language marks : 99
Enter Maths marks : 99
Enter Science marks : 99
Enter Social Science marks : 0
Enter Preferred group by student IA/IB/IC/IIA : IIA
Enter Phone No. of the student : 12345879
1 Record inserted in student Table successfully

      * * * * S T U D E N T   M E N U   * * * *
-----
1 : Add Student Details
2 : Show Student Details
3 : Search Student Details
4 : Update Student Details
5 : Delete Student Details
6 : Return to MAIN MENU...
-----
Enter Your Choice 1-6 :2
Adno      Name      Eng      IILang  Maths    Sci      Soc      Grp_Pref  Total  GrpAllot  Phone
-----
132      Vishnu    99       99      99      99      0       IIA      396    NA      12345879
Total number of records: 1

      * * * * S T U D E N T   M E N U   * * * *
-----
1 : Add Student Details
2 : Show Student Details
3 : Search Student Details
4 : Update Student Details
5 : Delete Student Details
6 : Return to MAIN MENU...
-----
Enter Your Choice 1-6 :
```

STUDENT DATABASE MANAGEMENT SYSTEM

Python 3.7.0 Shell

File Edit Shell Debug Options Window Help

```
2 : Show Student Details
3 : Search Student Details
4 : Update Student Details
5 : Delete Student Details
6 : Return to MAIN MENU...
```

```
-----
Enter Your Choice 1-6 :1
Enter Admission No : 9800
Enter Student Name : Tia
Enter English marks : 99
Enter II Language marks : 99
Enter Maths marks : 66
Enter Science marks : 66
Enter Social Science marks : 99
Enter Preferred group by student IA/IB/IC/IIA : IA
Enter Phone No. of the student : 68765235
1 Record inserted in student Table successfully
```

*****STUDENT MENU*****

```
-----
1 : Add Student Details
2 : Show Student Details
3 : Search Student Details
4 : Update Student Details
5 : Delete Student Details
6 : Return to MAIN MENU...
```

```
-----
Enter Your Choice 1-6 :2
```

Adno	Name	Eng	IILang	Maths	Sci	Soc	Grp_Pref	Total	GrpAllot	Phone
1234	Anu	96	96	96	96	36	IIA	420	IIA	65496846
1235	Subbu	89	89	89	89	89	IA	445	IA	56875135
1245	Vishal	100	100	100	100	100	IA	500	IA	656846532
1267	Vishnu	99	99	99	96	99	IA	492	IA	54986430
9800	Tia	99	99	66	66	99	IA	429	NA	68765235

Total number of records: 5

*****STUDENT MENU*****

```
-----
1 : Add Student Details
2 : Show Student Details
3 : Search Student Details
4 : Update Student Details
5 : Delete Student Details
6 : Return to MAIN MENU...
```

```
-----
Enter Your Choice 1-6 :
```

STUDENT DATABASE MANAGEMENT SYSTEM

1 : Show School Toppers
2 : Show Subject Toppers
3 : Return to MAIN MENU...

Enter Your Choice 1-3 :1

School Toppers			
Rank	Adno	Name	Total
1	Subbu	Subbu	450
2	132	Vishnu	396
3	56	Anu	315

* * * * T O P P E R S M E N U * * * *

1 : Show School Toppers
2 : Show Subject Toppers
3 : Return to MAIN MENU...

Enter Your Choice 1-3 :2

* * * * S U B J E C T - T O P P E R S M E N U * * * *

1 : English
2 : II Language
3 : Maths
4 : Science
5 : Social Science
6 : Return to MAIN MENU...

Enter Your Choice 1-6 :4

Science Toppers			
Rank	Adno	Name	Science Marks
1	132	Vishnu	99
2	Subbu	Subbu	90
3	56	Anu	63

* * * * S U B J E C T - T O P P E R S M E N U * * * *

1 : English
2 : II Language
3 : Maths
4 : Science
5 : Social Science
6 : Return to MAIN MENU...
