Harry Potter

HARRY POTTER

HOUSE

DATABASE

ABHINAV LV

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CERTIFICATE

Certified to be a bonafide record of Project work in COMPUTER SCIENCE done by

_____

of class XII during the year _____.

Date :

Place :

Internal Examiner   External Examiner

CONTENTS

ACKNOWLEDGEMENT

We are elated in presenting our Computer Science Project.

We express our sincere gratitude to our Principal **Shri P.G.Subramanian** and the institution for providing us with the excellent laboratory facilities for the successful completion of this project. We are extremely grateful to our computer science teachers **Mrs. K Indumathi** and **Mrs. Kalaivani G** for their guidance and valuable suggestions. We also thank the lab assistant **Mrs. Ananthi** and the software engineer **Mr. Dinesh** for their timely help. We thank our fellow classmates for the support and suggestions they gave during the course of the project.

AIM

To create a program that helps the house leaders to maintain the details of all the wizards in their respective houses and to help them conduct the Quidditch tournament in a seamless manner.

INTRODUCTION

This program is intended to be used as a database in the Harry Potter universe, that stores the details of all the wizards and professors that constitute the houses of Gryffindor, Hufflepuff, Ravenclaw and Slytherin. It also helps them to conduct the Quidditch tournament by adding scores, maintaining logs, bringing up statistics of previous tournaments and calculating the winners.

MODULES INCLUDED

- **mysql.connector** - For SQL.
- **math** - For fabs() function.
- **os** - For mkdir() function.
- **csv** - For handling csv files.
- **random** - For randint() function.
- **PrettyTable** - For table formatting.

FUNCTIONS INCLUDED

- **add()** - To add new wizards.
- **read()** - To display all records in wizards table.
- **update()** - To update wizard records.
- **display()** - To display specific fields in wizards table.
- **delete()** - To delete wizard records.
- **pdisplay()** - To display specific fields in professors table.
- **pread()** - To display all records in professors table.
- **quidw()** - To handle Quidditch tournament menu.

- **stats()** - To display statistics reports of Quidditch.
- **mwins()** - To count the no. of match wins for each house.
- **wins()** - To count the no. of tournament wins for each house.
- **tournament()** - To conduct the Quidditch tournament.
- **ntournament()** - To start new Quidditch tournament.
- **generator()** - To generate order of matches in the tournament.
- **matches()** - To conduct the tournament matches.
- **pttable()** - To display points table.
- **points()** - To count the points in each tournament.
- **archives()** - To display match records and logs yearwise.

DATABASE USED

```
mysql> desc wiz;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| Name   | varchar(30) | YES  |     | NULL    |       |
| House  | varchar(15) | YES  |     | NULL    |       |
| Blood  | varchar(15) | YES  |     | NULL    |       |
| Gender | varchar(10) | YES  |     | NULL    |       |
| DOB    | date        | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
5 rows in set (0.18 sec)
```

WIZARD TABLE

```
mysql> desc PROF;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| Name    | varchar(30) | YES  |     | NULL    |       |
| Subject | varchar(50) | YES  |     | NULL    |       |
| Gender  | varchar(10) | YES  |     | NULL    |       |
| DOB     | date        | YES  |     | NULL    |       |
| Blood   | varchar(15) | YES  |     | NULL    |       |
| House   | varchar(15) | YES  |     | NULL    |       |
+---------+-------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

PROFESSOR TABLE

```
mysql> desc quid;
+----------------------+-------------+------+-----+---------+-------+
| Field                | Type        | Null | Key | Default | Extra |
+----------------------+-------------+------+-----+---------+-------+
| Year                 | int         | YES  |     | NULL    |       |
| Gryffindor           | int         | YES  |     | NULL    |       |
| Hufflepuff           | int         | YES  |     | NULL    |       |
| Ravenclaw            | int         | YES  |     | NULL    |       |
| Slytherin            | int         | YES  |     | NULL    |       |
| Winners              | varchar(10) | YES  |     | NULL    |       |
| Head_of_Winning_Team | varchar(30) | YES  |     | NULL    |       |
+----------------------+-------------+------+-----+---------+-------+
7 rows in set (0.00 sec)
```

QUIDDITCH TABLE

FILES USED

- **status.txt -** To store the match status of the Quidditch tournament that is going on currently.
- **Buffer Files -** Created by the program automatically during the course of the tournament. Includes **year.txt**, **match.csv**,**order.csv**.
- **Year Files -** Directory named according to the year that the tournament takes place is created where the files used for that year are inserted automatically by the program, after the tournament for that year is completed.

PROJECT

CODE

```python
#Modules and Connections--------------------------------------------------

import mysql.connector as ms
import math
import os
import csv
import random
from prettytable import PrettyTable
conn=ms.connect(host='localhost',user='root',passwd='0000',database='potte
r')
cursor=conn.cursor()
path=input('\nEnter file path where you want the main folder to be placed\
nNote : (Dont add \'\\\\\' at the end and add \'\\\\\\\' between directories)\
n\nPath : ')

#Functions----------------------------------------------------------------

def add():
    ch='y'
    while ch.lower()=='y':
        name=input('\nEnter full name : ')
        s2='select * from wiz where name=\'{}\''.format(name)
        cursor.execute(s2)
        cursor.fetchall()
        r=cursor.rowcount
        if r!=0:
            print('\nRecord with name',' ','\'',name,'\'',' ','already exi
sts.',sep='')
            continue
        else:
            while True:
                house=input('\nEnter house : ')
                h=['Gryffindor','Hufflepuff','Ravenclaw','Slytherin']
                if house.capitalize()  not in h:
                    print('\nThere is no house categorised as',' ','\'',ho
use,'\'',sep='')
                    print('\nCategorised houses are : ',h)
                    continue
                else:
                    break
            while True:
                blood = input('\nEnter blood : ')
                b=['Pureblood','Halfblood','Mudblood']
                if blood.capitalize() not in b:
                    print('\nThere is no blood categorised as',' ','\'',bl
ood,'\'',sep='')
                    print('\nCategorised blood types are : ',b)
                    continue
                else:
```

```python
                    break
            while True:
                gender=input('\nWizard or Witch? ')
                g=['Wizard','Witch']
                if gender.capitalize() not in g:
                    print('\nThere is no gender categorised as',' ','\'',g
ender,'\'',sep='')
                    print('\n Enter either wizard or witch only. . .')
                    continue
                else:
                    break
            while True:
                try:
                    dob=input('\nEnter date of birth in the format yyyy-
mm-dd : ')
                    s='insert into wiz values(\'{}\',\'{}\',\'{}\',\'{}\',
\'{}\')'.format(name,house,blood,gender,dob)
                    cursor .execute(s)
                except ms.errors.DataError:
                    print('\nPlease enter DOB in the format \'yyyy-mm-
dd\'. . .')
                    continue
                break
            conn.commit()
            ch=input('\nAdd more records? (y/n) ')
#-----------------------------------------------------------------------
def read():
    x=PrettyTable()
    cursor.execute('select * from wiz order by name')
    d=cursor.fetchall()
    h=cursor.description
    r=cursor.rowcount
    t=[]
    for i in h:
        t.append(i[0])
    x.field_names=t
    for i in d:
        row=[]
        for j in i:
            row.append(j)
        x.add_row(row)
    print(x)
    print('\nNo. of records : ',r)
#-----------------------------------------------------------------------
def update():
    while True:
        n=input('\nEnter name whose record is to be updated : ')
        s2='select * from wiz where name like \'{}%\''.format(n)
        cursor.execute(s2)
        cursor.fetchall()
        r=cursor.rowcount
```

```python
        if r==0:
            print('\nSorry, name not found. . .')
            continue
        else:
            break
    print('\nWhich field would you like to update in ',n,'\'s record?',sep
='')
    while True:
        try:
            u=int(input('\n1.House | 2.Blood | 3.Gender | 4.Date of Birth\
n\nChoose your option number : '))
        except ValueError:
            print('\nPlease choose a numbered option , not letters. . .')
            continue
        if u==1:
            while True:
                house=input('\nHouses : Gryffindor | Hufflepuff | Ravencla
w | Slytherin\n\nEnter new house : ')
                h=['Gryffindor','Hufflepuff','Ravenclaw','Slytherin']
                if house.capitalize() not in h:
                    print('\nInvalid Input. . .Try again. . .')
                    continue
                else:
                    break
            s='update wiz set house=\'{}\' where name like \'{}%\''.format
(house,n)
            cursor.execute(s)
            conn.commit()
            print('\nUpdated successfully')
            break
        elif u==2:
            while True:
                blood=input('\nBlood Types : Pureblood | Halfblood | Mudbl
ood\n\nEnter new blood : ')
                b=['Pureblood','Halfblood','Mudblood']
                if blood.capitalize() not in b:
                    print('\nInvalid Input. . .Try again. . .')
                    continue
                else:
                    break
            s='update wiz set blood=\'{}\' where name like \'{}%\''.format
(blood,n)
            cursor.execute(s)
            conn.commit()
            print('\nUpdated successfully')
            break
        elif u==3:
            while True:
                gender=input('\nWitch or Wizard? ')
                g=['Witch','Wizard']
                if gender.capitalize() not in g:
```

```python
                    print('\nInvalid Input. . .Try again. . .')
                    continue
                else:
                    break
            s='update wiz set gender=\'{}\' where name like \'{}%\''.forma
t(gender,n)
            cursor.execute(s)
            conn.commit()
            print('\nUpdated successfully')
            break
        elif u==4:
            while True:
                try:
                    dob=input('\nEnter new DOB in the format yyyy-mm-
dd : ')
                    s='update wiz set dob=\'{}\' where name like \'{}%\''.
format(dob,n)
                    cursor.execute(s)
                except ms.errors.DataError:
                    print('\nPlease input DOB in the format \'yyyy-mm-
dd\'. . .')
                    continue
                break
            conn.commit()
            print('\nUpdated successfully')
            break
        else:
            print('\nChoose a valid option. . .')
            continue
#-----------------------------------------------------------------------
def display():
    ptable=PrettyTable()
    print('-'*70,'SPECIFIC FIELD REPORTS','-'*73)
    while True:
        try:
            o=int(input('\n1.Display wizards by house | 2.Display wizards
by blood | 3.Search for wizards by starting or ending letters\n\nEnter you
r choice : '))
        except ValueError:
            print('\nPlease input a numbered option, not letters. . .')
            continue
        if o==1:
            l=['Gryffindor','Hufflepuff','Ravenclaw','Slytherin']
            while True:
                v=input('\nHouses : Gryffindor | Hufflepuff | Ravenclaw |
Slytherin\n\nEnter house name to be accessed : ')
                if v.capitalize() in l:
                    print('-'*167)
                    s='select * from wiz where house=\'{}\''.format(v)
                    cursor.execute(s)
                    d=cursor.fetchall()
```

```python
                r=cursor.rowcount
                h=cursor.description
                l=[]
                for i in h:
                    l.append(i[0])
                ptable.field_names=l
                for i in d:
                    row=[]
                    for j in i:
                        row.append(j)
                    ptable.add_row(row)
                print(ptable)
                print('\nNo. of wizards in',v.capitalize(),':',r)
                break
            else:
                print('\nInvalid Input. . .Try again . . .')
                continue
        break
    elif o==2:
        b=['Pureblood','Halfblood','Mudblood']
        while True:
            v=input('\nBlood Types : Pureblood | Halfblood | Mudblood\
\n\nEnter blood type to be accessed : ')
            if v.capitalize() in b:
                print('-'*167)
                s='select * from wiz where blood=\'{}\''.format(v)
                cursor.execute(s)
                d=cursor.fetchall()
                h=cursor.description
                r=cursor.rowcount
                t=[]
                for i in h:
                    t.append(i[0])
                ptable.field_names=t
                for i in d:
                    row=[]
                    for j in i:
                        row.append(j)
                    ptable.add_row(row)
                print(ptable)
                print('\nNo. of',v,'wizards : ',r)
                break
            else:
                print('\nInvalid Input. . .Try again . . .')
                continue
        break
    elif o==3:
        while True:
            a=input('\na.Starting | b.Ending\n\nChoose (a/b) : ')
            if a=='a':
                l=input('\nEnter starting letter(s) : ')
```

```python
                    s='select * from wiz where name like \'{}%\''.format(l
)
                    cursor.execute(s)
                    d=cursor.fetchall()
                    r=cursor.rowcount
                    if r==0:
                        print('\nNo record found with name starting with '
,'\'',l,'\'',' . . .',sep='')
                        break
                    h=cursor.description
                    t=[]
                    for i in h:
                        t.append(i[0])
                    ptable.field_names=t
                    for i in d:
                        row=[]
                        for j in i:
                            row.append(j)
                        ptable.add_row(row)
                    print(ptable)
                    print('\nNumber of records found with name starting wi
th ','\'',l,'\'',' : ',r,sep='')
                    break
                elif a=='b':
                    l=input('\nEnter ending letter(s) : ')
                    s='select * from wiz where name like \'%{}\''.format(l
)
                    cursor.execute(s)
                    d=cursor.fetchall()
                    r=cursor.rowcount
                    if r==0:
                        print('\nNo record found with name ending with ','
\'',l,'\'',' . . .',sep='')
                        break
                    h=cursor.description
                    t=[]
                    for i in h:
                        t.append(i[0])
                    ptable.field_names=t
                    for i in d:
                        row=[]
                        for j in i:
                            row.append(j)
                        ptable.add_row(row)
                    print(ptable)
                    print('\nNumber of records found with name ending with
 ','\'',l,'\'',' : ',r,sep='')
                    break
                print('\nInvalid Input. . . Try Again. . .')
        else:
            print('\nInvalid Input. . .Try Again. . .')
```

```
                continue
            break
#------------------------------------------------------------------------
def delete():
    name=input('\nEnter name of wizard whose record is to be deleted : ')
    s='select * from wiz where name=\'{}\''.format(name)
    cursor.execute(s)
    cursor.fetchall()
    r=cursor.rowcount
    if r==0:
        print('\nNo record found with name',' ','\'',name,'\'',sep='')
    else:
        s2='delete from wiz where name=\'{}\''.format(name)
        cursor.execute(s2)
        conn.commit()
        print('\nDeleted record of',name,'successfully. . .')
#------------------------------------------------------------------------
def pdisplay():
    ptable=PrettyTable()
    print('-'*70,'SPECIFIC FIELD REPORTS','-'*73)
    while True:
        try:
            o=int(input('\n1.Display professors by house | 2.Display profe
ssors by blood | 3.Search for professors by starting or ending letters\n\n
Enter your choice : '))
        except ValueError:
            print('\nPlease input a numbered option, not letters. . .')
            print('-'*167)
            continue
        if o==1:
            l=['Gryffindor','Hufflepuff','Ravenclaw','Slytherin']
            while True:
                v=input('\nHouses : Gryffindor | Hufflepuff | Ravenclaw |
Slytherin\n\nEnter house name to be accessed : ')
                if v.capitalize() in l:
                    print('-'*167)
                    s='select * from prof where house=\'{}\''.format(v)
                    cursor.execute(s)
                    d=cursor.fetchall()
                    r=cursor.rowcount
                    h=cursor.description
                    l=[]
                    for i in h:
                        l.append(i[0])
                    ptable.field_names=l
                    for i in d:
                        row=[]
                        for j in i:
                            row.append(j)
                        ptable.add_row(row)
                    print(ptable)
```

```python
                        print('\nNo. of professors in',v.capitalize(),':',r)
                        break
                    else:
                        print('\nInvalid Input. . .Try again . . .')
                        print('-'*167)
                        continue
                break
        elif o==2:
            b=['Pureblood','Halfblood','Mudblood','Half-giant','Half-
goblin']
            while True:
                v=input('\nBlood Types : Pureblood | Halfblood | Mudblood
| Half-giant | Half-goblin\n\nEnter blood type to be accessed : ')
                if v.capitalize() in b:
                    print('-'*167)
                    s='select * from prof where blood=\'{}\''.format(v)
                    cursor.execute(s)
                    d=cursor.fetchall()
                    h=cursor.description
                    r=cursor.rowcount
                    t=[]
                    for i in h:
                        t.append(i[0])
                    ptable.field_names=t
                    for i in d:
                        row=[]
                        for j in i:
                            row.append(j)
                        ptable.add_row(row)
                    print(ptable)
                    print('\nNo. of',v,'professors : ',r)
                    break
                else:
                    print('\nInvalid Input. . .Try again . . .')
                    print('-'*167)
                    continue
            break
        elif o==3:
            while True:
                a=input('\na.Starting | b.Ending\n\nChoose (a/b) : ')
                if a=='a':
                    l=input('\nEnter starting letter(s) : ')
                    s='select * from prof where name like \'{}%\''.format(
l)
                    cursor.execute(s)
                    d=cursor.fetchall()
                    r=cursor.rowcount
                    if r==0:
                        print('\nNo record found with name starting with '
,'\'',l,'\'',' . . . .',sep='')
                        break
```

```python
                h=cursor.description
                t=[]
                for i in h:
                    t.append(i[0])
                ptable.field_names=t
                for i in d:
                    row=[]
                    for j in i:
                        row.append(j)
                    ptable.add_row(row)
                print(ptable)
                print('\nNumber of records found with name starting wi
th ','\'',l,'\'',' : ',r,sep='')
                break
            elif a=='b':
                l=input('\nEnter ending letter(s) : ')
                s='select * from prof where name like \'%{}\''.format(
l)
                cursor.execute(s)
                d=cursor.fetchall()
                r=cursor.rowcount
                if r==0:
                    print('\nNo record found with name ending with ','
\'',l,'\'',' . . .',sep='')
                    break
                h=cursor.description
                t=[]
                for i in h:
                    t.append(i[0])
                ptable.field_names=t
                for i in d:
                    row=[]
                    for j in i:
                        row.append(j)
                    ptable.add_row(row)
                print(ptable)
                print('\nNumber of records found with name ending with
 ','\'',l,'\'',' : ',r,sep='')
                break
            print('\nInvalid Input. . .Try Again. . .')
            print('-'*167)
        else:
            print('\nInvalid Input. . .Try Again. . .')
            print('-'*167)
            continue
        break
#------------------------------------------------------------------------
def pread():
    x=PrettyTable()
    cursor.execute('select * from prof order by name')
    d=cursor.fetchall()
```

```python
        h=cursor.description
        r=cursor.rowcount
        t=[]
        for i in h:
            t.append(i[0])
        x.field_names=t
        for i in d:
            row=[]
            for j in i:
                row.append(j)
            x.add_row(row)
        print(x)
        print('\nNo. of records : ',r)
#----------------------------------------------------------------------
def quidw():
    ptable=PrettyTable()
    print('-'*74,'QUIDDITCH MENU','-'*77)
    while True:
        try:
            c=int(input('\n1.Yearwise Winners Report | 2.Statistics | 3.To
urnament | 4.Archives\n\nEnter your choice : '))
        except ValueError:
            print('\nPlease input a numbered option. . .')
            print('-'*167)
            continue
        if c==1:
            print('-'*70,'YEARWISE WINNERS REPORT','-'*72)
            cursor.execute('select * from quid order by year')
            d=cursor.fetchall()
            h=cursor.description
            t=[]
            for i in h:
                t.append(i[0])
            ptable.field_names=t
            for i in d:
                row=[]
                for j in i:
                    row.append(j)
                ptable.add_row(row)
            print(ptable)
            break
        elif c==2:
            print('-'*76,'STATISTICS','-'*79)
            stats()
            break
        elif c==3:
            tournament()
            break
        elif c==4:
            archives()
            break
```

```python
        else:
            print('\nInvalid Input. . .Try Again. . .')
            print('-'*167)
            continue
#---------------------------------------------------------------------------
def stats():
    global path
    high=0
    low=10000
    for i in range(2000,2051):
        for j in range(1,7):
            try:
                f=open(path+'\\CSC Project\\Years\\'+str(i)+'\\Matches\\Ma
tch '+str(j)+'.csv',newline='\n')
                r=csv.reader(f)
                match=[]
                for k in r:
                    match.append(k)
                if math.fabs(int(match[0][3])-
int(match[0][1]))>=float(high):
                    high=math.fabs(int(match[0][3])-int(match[0][1]))
                    hrec=match
                    hyear=i
                    hmatch_no=j
                elif math.fabs(int(match[0][3])-
int(match[0][1]))<=float(low):
                    low=math.fabs(int(match[0][3])-int(match[0][1]))
                    lrec=match
                    lyear=i
                    lmatch_no=j
                f.close()
            except FileNotFoundError:
                continue
    htable=PrettyTable()
    ltable=PrettyTable()
    hrec,lrec,hyear,lyear=[],[],[],[]
    hmatch_no,lmatch_no=[],[]
    for i in range(2000,2051):
        for j in range(1,7):
            try:
                f=open(path+'\\CSC Project\\Years\\'+str(i)+'\\Matches\\Ma
tch '+str(j)+'.csv',newline='\n')
                r=csv.reader(f)
                match=[]
                for k in r:
                    match.append(k)
                if math.fabs(int(match[0][3])-
int(match[0][1]))>=float(high):
                    high=math.fabs(int(match[0][3])-int(match[0][1]))
                    hrec.append(match)
                    hyear.append(i)
```

```python
                    hmatch_no.append(j)
                elif math.fabs(int(match[0][3])-
int(match[0][1]))<=float(low):
                    low=math.fabs(int(match[0][3])-int(match[0][1]))
                    lrec.append(match)
                    lyear.append(i)
                    lmatch_no.append(j)
            f.close()
        except FileNotFoundError:
            continue
    print('\nWIN BY THE HIGHEST MARGIN :')
    htable.field_names=['Year','Match Number','Match','Point Difference']
    ltable.field_names=['Year','Match Number','Match','Point Difference']
    for i in range(len(hrec)):
        htable.add_row([hyear[i],hmatch_no[i],hrec[i][0][0]+' vs '+hrec[i]
[0][2],int(high)])
    print(htable)
    print()
    print('\nWIN BY THE LOWEST MARGIN :')
    for i in range(len(lrec)):
        ltable.add_row([lyear[i],lmatch_no[i],lrec[i][0][0]+' vs '+lrec[i]
[0][2],int(low)])
    print(ltable)
    print()
    print('-'*167)
    print('HOUSE WITH HIGHEST NUMBER OF POINTS IN QUIDDITCH :')
    mptable=PrettyTable()
    mptable.field_names=['House','Points']
    lptable=PrettyTable()
    lptable.field_names=['House','Points']
    cursor.execute('select sum(gryffindor),sum(hufflepuff),sum(ravenclaw),
sum(slytherin) from quid')
    d=cursor.fetchall()
    mhigh,mlow=0,10000000
    highest,lowest=[],[]
    for i in d:
        for j in i:
            if j>=mhigh:
                mhigh=j
            elif j<=mlow:
                mlow=j
    for i in d:
        if i[0]>=mhigh:
            highest.append(['Gryffindor',i[0]])
        elif i[0]<=mlow:
            lowest.append(['Gryffindor',i[0]])
        if i[1]>=mhigh:
            highest.append(['Hufflepuff',i[1]])
        elif i[1]<=mlow:
            lowest.append(['Hufflepuff',i[1]])
        if i[2]>=mhigh:
```

```python
                highest.append(['Ravenclaw',i[2]])
            elif i[2]<=mlow:
                lowest.append(['Ravenclaw',i[2]])
            if i[3]>=mhigh:
                highest.append(['Slytherin',i[3]])
            elif i[3]<=mlow:
                lowest.append(['Slytherin',i[3]])
    for i in highest:
        mptable.add_row(i)
    print(mptable)
    print()
    print('\nHOUSE WITH LOWEST NUMBER OF POINTS IN QUIDDITCH :')
    for i in lowest:
        lptable.add_row(i)
    print(lptable)
    print()
    print('-'*167)
    wins()
    mwins()
    print()
#--------------------------------------------------------------------------
def mwins():
    global path
    gcount,hcount,rcount,scount=0,0,0,0
    high,low=0,10000
    for i in range(2000,2051):
        for j in range(1,7):
            try:
                f=open(path+'\\CSC Project\\Years\\'+str(i)+'\\Matches\\Ma
tch '+str(j)+'.csv',newline='\n')
                r=csv.reader(f)
                match=[]
                for k in r:
                    match.append(k)
                if match[0][4]=='Gryffindor':
                    gcount+=1
                if match[0][4]=='Hufflepuff':
                    hcount+=1
                if match[0][4]=='Ravenclaw':
                    rcount+=1
                if match[0][4]=='Slytherin':
                    scount+=1
            except FileNotFoundError:
                continue
    wins=[['Gryffindor',gcount],['Hufflepuff',hcount],['Ravenclaw',rcount]
,['Slytherin',scount]]
    for i in wins:
        if i[1]>=high:
            high=i[1]
        if i[1]<=low:
            low=i[1]
```

```python
    winners,losers=[],[]
    wtable=PrettyTable()
    wtable.field_names=['House','No. of Match Wins']
    ltable=PrettyTable()
    ltable.field_names=['House','No. of Match Wins']
    for i in wins:
        if i[1]>=high:
            winners.append(i)
        if i[1]<=low:
            losers.append(i)
    for i in winners:
        wtable.add_row(i)
    for i in losers:
        ltable.add_row(i)
    print('\nHOUSE WITH HIGHEST NUMBER OF MATCH WINS :')
    print(wtable)
    print()
    print('\nHOUSE WITH LOWEST NUMBER OF MATCH WINS :')
    print(ltable)
#-------------------------------------------------------------------
def wins():
    cursor.execute('select count(*) from quid where winners=\'gryffindor\'
')
    d=cursor.fetchall()
    for i in d:
        gryffindor=i[0]
    cursor.execute('select count(*) from quid where winners=\'hufflepuff\'
')
    d=cursor.fetchall()
    for i in d:
        hufflepuff=i[0]
    cursor.execute('select count(*) from quid where winners=\'ravenclaw\''
)
    d=cursor.fetchall()
    for i in d:
        ravenclaw=i[0]
    cursor.execute('select count(*) from quid where winners=\'slytherin\''
)
    d=cursor.fetchall()
    for i in d:
        slytherin=i[0]
    twins=[['Gryffindor',gryffindor],['Hufflepuff',hufflepuff],['Ravenclaw
',ravenclaw],['Slytherin',slytherin]]
    high,low=0,10000
    highest,lowest=[],[]
    for i in twins:
        if i[1]>=high:
            high=i[1]
        elif i[1]<=low:
            low=i[1]
    for i in twins:
```

```python
            if i[1]>=high:
                highest.append(i)
            elif i[1]<=low:
                lowest.append(i)
    print('HOUSE WITH HIGHEST NUMBER OF TOURNAMENT WINS :')
    wtable=PrettyTable()
    ltable=PrettyTable()
    wtable.field_names=['House','No. of Tournament Wins']
    ltable.field_names=['House','No. of Tournament Wins']
    for i in highest:
        wtable.add_row(i)
    print(wtable)
    print('\nHOUSE WITH LOWEST NUMBER OF TOURNAMENT WINS :')
    for i in lowest:
        ltable.add_row(i)
    print(ltable)
#-------------------------------------------------------------------------
def tournament():
    global path
    ptable=PrettyTable()
    print('-'*71,'QUIDDITCH TOURNAMENT','-'*74)
    f=open(path+'\\CSC Project\\Buffer files\\status.txt')
    status=f.read()
    f.close()
    choice=''
    if status=='1':
        choice=input('\n There is no existing tournament going on. Do you
want to start a new tournament? ')
        print('\n')
        if choice=='yes':
            mfile=open(path+'\\CSC Project\\Buffer files\\match.csv','w')
            mfile.close()
            ntournament()
            matches()
    elif status=='7':
        print('The previous tournament has ended.')
        f2=open(path+'\\CSC Project\\Buffer files\\status.txt','w')
        f2.write('1')
        f2.close()
        print('\n')
        print('\n| MATCHES HELD IN THIS TOURNAMENT |')
        mfile=open(path+'\\CSC Project\\Buffer files\\match.csv',newline='
\n')
        me=csv.reader(mfile)
        ptable.field_names=['Match No.','Team 1','Points_1','Team 2','Poin
ts_2','Winners']
        for i in me:
            row=[]
            for j in i:
                row.append(j)
            ptable.add_row(row)
```

```python
            print(ptable)
            points()
    else:
        ofile=open(path+'\\CSC Project\\Buffer files\\order.csv',newline='
\n')
        ore=csv.reader(ofile)
        print('\nThere is a tournament currently going on.')
        print('\n| COMPLETED MATCHES |')
        mfile=open(path+'\\CSC Project\\Buffer files\\match.csv',newline='
\n')
        mre=csv.reader(mfile)
        ptable.field_names=['Match No.','Team 1','Points_1','Team 2','Poin
ts_2','Winners']
        for i in mre:
            row=[]
            for j in i:
                row.append(j)
            ptable.add_row(row)
        print(ptable)
        pttable()
        print('\n| REMAINING MATCHES |')
        order=[]
        for i in ore:
            order.append(i)
        ofile.close()
        status=int(status)
        for i in order:
            print('\nMatch',status,':',i[0],'vs',i[1])
            status+=1
        matches()
#---------------------------------------------------------------------------
def ntournament():
    global path
    print('-'*74,'NEW TOURNAMENT','-'*77)
    print('\n| HOW THE TOURNAMENT WORKS |')
    print('\n1. Each tournament will consist of 6 matches between the 4 ho
uses of Gryffindor, Hufflepuff, Ravenclaw and Slytherin.')
    print('\n2. At the end of the tournament the house with most points wi
ll be declared winner.')
    print('\n3. In the case of a tie for the winning spot, the house with
more number of wins will be declared winner.')
    print('\n| POINTS SYSTEM |')
    print('\n1. Each goal scored will add 10 points to the scoreboard for
the scoring team.')
    print('\n2. Catching the golden snitch will fetch 150 points for the s
coring team and the match is declared over.')
    print('\n3. In the case where no team has yet caught the snitch, the f
irst team to score 250 points is declared winner.')
    while True:
        try:
            while True:
```

```python
                year=int(input('\nEnter the year : '))
                s='select * from quid where year=\'{}\''.format(year)
                cursor.execute(s)
                cursor.fetchall()
                r=cursor.rowcount
                if r==0:
                    if year>2050 or year<2000:
                        print('\nPlease input a year between 2000 and 2050
.')
                        continue
                    else:
                        break
                else:
                    print('\nA tournament has already taken place in the y
ear',year,'.')
                    continue
        except ValueError:
            print('\nPlease input a valid year, not alphabets.')
            continue
        break
    f=open(path+'\\CSC Project\\Buffer files\\year.txt','w')
    f.write(str(year))
    f.close()
    os.mkdir(path+'\\CSC Project\\Years\\'+str(year))
    os.mkdir(path+'\\CSC Project\\Years\\'+str(year)+'\\Matches')
    os.mkdir(path+'\\CSC Project\\Years\\'+str(year)+'\\Match Logs')
    print('\n| MATCHES TO BE HELD IN THIS TOURNAMENT |')
    generator()
#-------------------------------------------------------------------------
def generator():
    global path
    l=[['Gryffindor','Hufflepuff'],['Gryffindor','Ravenclaw'],['Gryffindor
','Slytherin'],['Hufflepuff','Ravenclaw'],['Hufflepuff','Slytherin'],['Rav
enclaw','Slytherin']]
    count=1
    order=[]
    for i in range(6,0,-1):
        match=random.randint(1,i)
        print('\nMatch',count,':',l[match-1][0],'vs',l[match-1][1])
        order.append(l[match-1])
        l.pop(match-1)
        count+=1
    f=open(path+'\\CSC Project\\Buffer files\\order.csv','w')
    w=csv.writer(f)
    for j in order:
        w.writerow(j)
    f.close()
#-------------------------------------------------------------------------
def matches():
    global path
    f=open(path+'\\CSC Project\\Buffer files\\status.txt')
```

```python
    status=f.read()
    f.close()
    f2=open(path+'\\CSC Project\\Buffer files\\order.csv','r',newline='\n'
)
    re=csv.reader(f2)
    order=[]
    for j in re:
        order.append(j)
    f2.close()
    yf=open(path+'\\CSC Project\\Buffer files\\year.txt')
    year=yf.read()
    yf.close()
    print('\nStart Match',status,'? ',end='')
    ch=input()
    if ch=='yes':
        lf=open(path+'\\CSC Project\\Years\\'+year+'\\Match Logs\\Match'+s
tatus+'.txt','w')
        print('-'*77,'MATCH',status,'-'*81)
        print(' '*66,'|',order[0][0],'vs',order[0][1],'|')
        lf.write(order[0][0]+' vs '+order[0][1]+'\n')
        print('\n| INSTRUCTIONS TO ENTER POINTS |')
        print('\n1. To enter points, enter the first letter of the name of
 the house that scored.')
        print('\n2. Next, enter \'goal\' if the team has scored a goal.')
        print('\n3. Enter \'snitch\' if the team has caught the snitch.')
        pts=''
        pt1,pt2=0,0
        while pts.capitalize()!='Snitch':
            house=input('\nHouse--> ')
            lf.write('\nHouse--> '+house)
            if house.capitalize()==order[0][0][0]:
                while True:
                    pts=input('\nGoal/Snitch--> ')
                    lf.write('\nGoal/Snitch--> '+pts)
                    if pts.capitalize()=='Goal':
                        pt1+=10
                        print()
                        print(order[0][0],'has scored a goal ! Ten points
to',order[0][0],'!')
                        lf.write('\n'+order[0][0]+' has scored a goal ! Te
n points to '+order[0][0]+' !')
                        if pt1==250:
                            print('\n')
                            print(order[0][0],'has scored 250 points !',or
der[0][0],'wins !')
                            lf.write('\n'+order[0][0]+' has scored 250 poi
nts ! '+order[0][0]+' wins !')
                            win=order[0][0]
                            pts='snitch'
                            break
```

```python
                        print('\nScores |',order[0][0],':',pt1,',',order[0
][1],':',pt2)
                        lf.write('\nScores | '+order[0][0]+' : '+str(pt1)+
' , '+order[0][1]+' : '+str(pt2))
                        break
                    elif pts.capitalize()=='Snitch':
                        pt1+=150
                        print()
                        print(order[0][0],'has caught the snitch !',order[
0][0],'wins !')
                        lf.write('\n'+order[0][0]+' has caught the snitch
! '+order[0][0]+' wins !')
                        win=order[0][0]
                        break
                    else:
                        print('\nInvalid Input. . .')
                        lf.write('\nInvalid Input. . .')
                        continue
            elif house.capitalize()==order[0][1][0]:
                while True:
                    pts=input('\nGoal/Snitch--> ')
                    lf.write('\nGoal/Snitch--> '+pts)
                    if pts.capitalize()=='Goal':
                        pt2+=10
                        print('\n')
                        print(order[0][1],'has scored a goal ! Ten points
to',order[0][1],'!')
                        lf.write('\n'+order[0][1]+' has scored a goal ! Te
n points to '+order[0][1]+' !')
                        if pt2==250:
                            print('\n')
                            print(order[0][1],'has scored 250 points !',or
der[0][1],'wins !')
                            lf.write('\n'+order[0][1]+' has scored 250 poi
nts ! '+order[0][1]+' wins !')
                            win=order[0][1]
                            pts='snitch'
                            break
                        print('\nScores |',order[0][0],':',pt1,',',order[0
][1],':',pt2)
                        lf.write('\nScores | '+order[0][0]+' : '+str(pt1)+
' , '+order[0][1]+' : '+str(pt2))
                        break
                    elif pts.capitalize()=='Snitch':
                        pt2+=150
                        print('\n')
                        print(order[0][1],'has caught the snitch !',order[
0][1],'wins !')
                        lf.write('\n'+order[0][1]+' has caught the snitch
! '+order[0][1]+' wins !')
                        win=order[0][1]
```

```
                            break
                    else:
                            print('\nInvalid Input. . .')
                            lf.write('\nInvalid Input. . .')
                            continue
            else:
                    print('\nInvalid Input. . .')
                    lf.write('\nInvalid Input. . .')
                    continue
        print('\nTotal Points scored by',order[0][0],':',pt1)
        lf.write('\nTotal Points scored by '+order[0][0]+' : '+str(pt1))
        print('\nTotal Points scored by',order[0][1],':',pt2)
        lf.write('\nTotal Points scored by '+order[0][1]+' : '+str(pt2))
        print('\n',' '*71,'MATCH',status,'HAS ENDED')
        lf.write('\nMATCH '+status+' HAS ENDED')
        matchf=open(path+'\\CSC Project\\Years\\'+year+'\\Matches\\Match '
+status+'.csv','w')
        matchw=csv.writer(matchf)
        matchw.writerow([order[0][0],pt1,order[0][1],pt2,win])
        matchf.close()
        mfile=open(path+'\\CSC Project\\Buffer files\\match.csv','a')
        mw=csv.writer(mfile)
        mrec=[status,order[0][0],pt1,order[0][1],pt2,win]
        mw.writerow(mrec)
        mfile.close()
        order.pop(0)
        f3=open(path+'\\CSC Project\\Buffer files\\order.csv','w')
        wr=csv.writer(f3)
        for k in order:
            wr.writerow(k)
        f3.close()
        f4=open(path+'\\CSC Project\\Buffer files\\status.txt','w')
        stat=int(status)
        stat+=1
        status=str(stat)
        f4.write(status)
        f4.close()
        lf.close()
#----------------------------------------------------------------------
def pttable():
    global path
    ptable=PrettyTable()
    f=open(path+'\\CSC Project\\Buffer files\\match.csv',newline='\n')
    fre=csv.reader(f)
    point=[]
    for i in fre:
        point.append(i)
    f.close()
    gpts,hpts,rpts,spts=0,0,0,0
    high=0
    for j in point:
```

```python
            if j[1]=='Gryffindor':
                gpts+=int(j[2])
                if gpts>=high:
                    high=gpts
                    hteam='Gryffindor'
            if j[3]=='Gryffindor':
                gpts+=int(j[4])
                if gpts>=high:
                    high=gpts
                    hteam='Gryffindor'
            if j[1]=='Hufflepuff':
                hpts+=int(j[2])
                if hpts>=high:
                    high=hpts
                    hteam='Hufflepuff'
            if j[3]=='Hufflepuff':
                hpts+=int(j[4])
                if hpts>=high:
                    high=hpts
                    hteam='Hufflepuff'
            if j[1]=='Ravenclaw':
                rpts+=int(j[2])
                if rpts>=high:
                    high=rpts
                    hteam='Ravenclaw'
            if j[3]=='Ravenclaw':
                rpts+=int(j[4])
                if rpts>=high:
                    high=rpts
                    hteam='Ravenclaw'
            if j[1]=='Slytherin':
                spts+=int(j[2])
                if spts>=high:
                    high=spts
                    hteam='Slytherin'
            if j[3]=='Slytherin':
                spts+=int(j[4])
                if spts>=high:
                    high=spts
                    hteam='Slytherin'
print('\n| POINTS TABLE |')
yf=open(path+'\\CSC Project\\Buffer files\\year.txt')
year=yf.read()
yf.close()
pf=open(path+'\\CSC Project\\Years\\'+year+'\\ptable.csv','w')
pw=csv.writer(pf)
pw.writerow(['Gryffindor','Hufflepuff','Ravenclaw','Slytherin'])
pw.writerow([gpts,hpts,rpts,spts])
pf.close()
ptable.field_names=['Gryffindor','Hufflepuff','Ravenclaw','Slytherin']
ptable.add_row([gpts,hpts,rpts,spts])
```

```python
        print(ptable)
        print('\n')
        print(hteam,'leads with',high,'points.')
#-----------------------------------------------------------------------
def points():
    global path
    ptable=PrettyTable()
    f=open(path+'\\CSC Project\\Buffer files\\match.csv',newline='\n')
    fre=csv.reader(f)
    point=[]
    for i in fre:
        point.append(i)
    f.close()
    gpts,hpts,rpts,spts=0,0,0,0
    high=0
    for j in point:
        if j[1]=='Gryffindor':
            gpts+=int(j[2])
            if gpts>=high:
                high=gpts
        if j[3]=='Gryffindor':
            gpts+=int(j[4])
            if gpts>=high:
                high=gpts
        if j[1]=='Hufflepuff':
            hpts+=int(j[2])
            if hpts>=high:
                high=hpts
        if j[3]=='Hufflepuff':
            hpts+=int(j[4])
            if hpts>=high:
                high=hpts
        if j[1]=='Ravenclaw':
            rpts+=int(j[2])
            if rpts>=high:
                high=rpts
        if j[3]=='Ravenclaw':
            rpts+=int(j[4])
            if rpts>=high:
                high=rpts
        if j[1]=='Slytherin':
            spts+=int(j[2])
            if spts>=high:
                high=spts
        if j[3]=='Slytherin':
            spts+=int(j[4])
            if spts>=high:
                high=spts
    f2=open(path+'\\CSC Project\\Buffer files\\year.txt')
    year=f2.read()
    f2.close()
```

```python
        year=int(year)
        if high==gpts:
            win='Gryffindor'
            teach='Minerva McGonagall'
        elif high==hpts:
            win='Hufflepuff'
            teach='Pomona Sprout'
        elif high==rpts:
            win='Ravenclaw'
            teach='Filius Flitwick'
        elif high==spts:
            win='Slytherin'
            teach='Severus Snape'
        print('\n| POINTS TABLE |')
        ptable.field_names=['Gryffindor','Hufflepuff','Ravenclaw','Slytherin']
        ptable.add_row([gpts,hpts,rpts,spts])
        print(ptable)
        print('\nWINNERS OF THE',year,'QUIDDITCH CUP :',win,'!')
        print('\nCONGRATULATIONS !')
        s='insert into quid values(\'{}\',\'{}\',\'{}\',\'{}\',\'{}\',\'{}\',\
'{}\')'.format(year,gpts,hpts,rpts,spts,win,teach)
        cursor.execute(s)
        conn.commit()
#---------------------------------------------------------------------------
def archives():
    global path
    print('-'*77,'ARCHIVES','-'*80)
    ptable=PrettyTable()
    while True:
        try:
            while True:
                try:
                    year=int(input('\nEnter the year : '))
                    f=open(path+'\\CSC Project\\Years\\'+str(year)+'\\ptab
le.csv',newline='\n')
                except FileNotFoundError:
                    print('\nNo tournament has taken place in the year',ye
ar,'.')
                    continue
                break
        except ValueError:
            print('\nPlease input a valid year, not alphabets.')
            continue
        break
    while True:
        try:
            while True:
                c=int(input('\n1.Points Table | 2.Match Logs | 3.Scores\n\
nEnter your choice : '))
                if c==1:
                    print()
```

```python
                    print('| POINTS TABLE OF THE YEAR',year,'|')
                    f=open(path+'\\CSC Project\\Years\\'+str(year)+'\\ptab
le.csv',newline='\n')
                    fr=csv.reader(f)
                    t=[]
                    for i in fr:
                        t.append(i)
                    ptable.field_names=t[0]
                    ptable.add_row(t[1])
                    print()
                    print(ptable)
                    f.close()
                    break
                elif c==2:
                    count=0
                    for i in range(6):
                        try:
                            f=open(path+'\\CSC Project\\Years\\'+str(year)
+'\\Match Logs\\Match'+str(i+1)+'.txt')
                            line=f.readline()
                            print('\n'+'Match '+str(i+1)+' : '+line)
                            count+=1
                            f.close()
                        except FileNotFoundError:
                            continue
                    while True:
                        try:
                            while True:
                                m=int(input('\nEnter match number (1-
'+str(count)+') : '))
                                if m not in range(1,count+1):
                                    print('\nPlease input a valid option (
1-'+str(count)+') . . .')
                                    continue
                                else:
                                    break
                        except ValueError:
                            print('\nPlease input a numbered option (1-
'+str(count)+'), not letters. . .')
                            continue
                        break
                    f=open(path+'\\CSC Project\\Years\\'+str(year)+'\\Matc
h Logs\\Match'+str(m)+'.txt')
                    log=f.read()
                    print()
                    print('| MATCH',m,'LOG |')
                    print()
                    print(log)
                    f.close()
                    break
                elif c==3:
```

```python
                    count=0
                    for i in range(6):
                        try:
                            f=open(path+'\\CSC Project\\Years\\'+str(year)
+'\\Match Logs\\Match'+str(i+1)+'.txt')
                            line=f.readline()
                            print('\n'+'Match '+str(i+1)+' : '+line)
                            count+=1
                            f.close()
                        except FileNotFoundError:
                            continue
                    while True:
                        try:
                            while True:
                                m=int(input('\nEnter match number (1-
'+str(count)+') : '))
                                if m not in range(1,count+1):
                                    print('\nPlease input a valid option (
1-'+str(count)+') . . .')
                                    continue
                                else:
                                    break
                        except ValueError:
                            print('\nPlease input a numbered option (1-
'+str(count)+'), not letters. . .')
                            continue
                        break
                    print('-'*167)
                    f=open(path+'\\CSC Project\\Years\\'+str(year)+'\\Matc
hes\\Match '+str(m)+'.csv',newline='\n')
                    fr=csv.reader(f)
                    l=[]
                    for i in fr:
                        l=i
                    print()
                    print('| MATCH',m,'|')
                    print()
                    print(l[0],'vs',l[2])
                    print()
                    print(l[0],':',l[1],',',l[2],':',l[3],'| Winners :',l[
4])
                    print()
                    break
                else:
                    print('\nInvalid Input. . .')
                    continue
        except ValueError:
            print('\nPlease enter a valid option, not letters. . .')
            continue
        print()
        break
```

```python
#Main Program----------------------------------------------------------------
print('-'*167)
print(' '*55,'Welcome to Hogwarts School of Witchcraft and Wizardry\n')
print('-'*167)
print('\n')
m=1
while m==1:
    while True:
        print('-'*74,'HOUSE DATABASE','-'*77)
        try:
            print('\n1.Students database | 2.Professors database | 3.Quidd
itch | 4.Exit')
            k=int(input('\nEnter your choice : '))
        except ValueError:
            print('\nPlease input a numbered option, not letters. . .')
            continue
        if k==1:
            m=2
            while m==2:
                print('-'*73,'STUDENTS DATABASE','-'*75)
                print()
                while True:
                    try:
                        print('1.Display all student records | 2.Specific
Field Reports | 3.Add new records | 4.Update an existing record | 5.Delete
 an existing record')
                        k2=int(input('\nEnter your choice : '))
                    except ValueError:
                        print('\nPlease input a numbered option, not lette
rs. . .')
                        print('-'*167)
                        continue
                    if k2==1:
                        print('\n')
                        read()
                        break
                    elif k2==2:
                        print('\n')
                        display()
                        break
                    elif k2==3:
                        print('\n')
                        add()
                        break
                    elif k2==4:
                        print('\n')
                        update()
                        break
                    elif k2==5:
                        print('\n')
                        delete()
```

```python
                                break
                        else:
                            print('\nInvalid input. . .Try again. . .')
                            print('-'*167)
                            continue
                    print('-'*167)
                    while True:
                        try:
                            m=int(input('Return to : 1.Main Menu | 2.Student D
atabase Menu\n\nEnter your choice : '))
                            if m not in [1,2]:
                                print('\nPlease input either 1 or 2 . . .')
                                print('-'*167)
                                continue
                        except ValueError:
                            print('\nEnter a numbered option, not letters. . .
')
                            print('-'*167)
                            continue
                        break
        elif k==2:
            print('\n')
            m=2
            while m==2:
                print('-'*72,'PROFESSORS DATABASE','-'*73)
                while True:
                    try:
                        print('\n1.Display all records | 2.Specific Field
Reports')
                        k2=int(input('\nEnter your choice : '))
                    except ValueError:
                        print('\nPlease input a numbered option, not lette
rs. . .')
                        print('-'*167)
                        continue
                    if k2==1:
                        pread()
                        break
                    elif k2==2:
                        pdisplay()
                        break
                    else:
                        print('\nInvalid input. . . Try again. . .')
                        print('-'*167)
                        continue
                print('-'*167)
                while True:
                    try:
                        m=int(input('Return to : 1.Main Menu | 2.Professor
 Database Menu\n\nEnter your choice : '))
                        if m not in [1,2]:
```

```python
                            print('\nPlease input either 1 or 2 . . .')
                            print('-'*167)
                            continue
                    except ValueError:
                            print('\nEnter a numbered option, not letters. . .
')
                            print('-'*167)
                            continue
                    break
        elif k==3:
            m=2
            while m==2:
                quidw()
                print('-'*167)
                while True:
                    try:
                            m=int(input('Return to : 1.Main Menu | 2.Quidditch
 Database Menu\n\nEnter your choice : '))
                            if m not in [1,2]:
                                print('\nPlease input either 1 or 2 . . .')
                                print('-'*167)
                                continue
                    except ValueError:
                            print('\nEnter a numbered option, not letters. . .
')
                            print('-'*167)
                            continue
                    break
        elif k==4:
            print('-'*167)
            break
        else:
            print('\nInvalid input. . . Try again. . .')
            continue
    break
conn.close()
#==============================END==============================
```
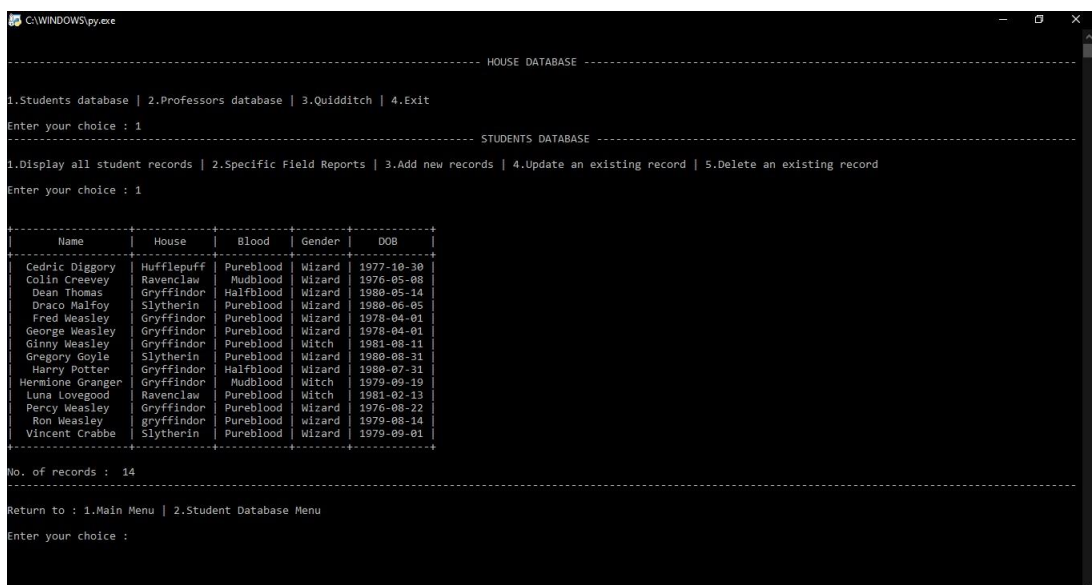
OUTPUTS

1.MAIN MENU

2.STUDENT DATABASE MENU

3.DISPLAYING ALL STUDENT RECORDS

Return to : 1.Main Menu | 2.Student Database Menu

Enter your choice : 2

-- STUDENTS DATABASE --

1.Display all student records | 2.Specific Field Reports | 3.Add new records | 4.Update an existing record | 5.Delete an existing record

Enter your choice : 2

-- SPECIFIC FIELD REPORTS --

1.Display wizards by house | 2.Display wizards by blood | 3.Search for wizards by starting or ending letters

Enter your choice : _

4.SPECIFIC FIELD REPORTS IN STUDENT DATABASE

-- SPECIFIC FIELD REPORTS --

1.Display wizards by house | 2.Display wizards by blood | 3.Search for wizards by starting or ending letters

Enter your choice : 1

Houses : Gryffindor | Hufflepuff | Ravenclaw | Slytherin

Enter house name to be accessed : slytherin

Name	House	Blood	Gender	DOB
Draco Malfoy	Slytherin	Pureblood	Wizard	1980-06-05
Gregory Goyle	Slytherin	Pureblood	Wizard	1980-08-31
Vincent Crabbe	Slytherin	Pureblood	Wizard	1979-09-01

No. of wizards in Slytherin : 3

Return to : 1.Main Menu | 2.Student Database Menu

Enter your choice :

5.DISPLAYING WIZARDS (STUDENTS) BY HOUSE

-- SPECIFIC FIELD REPORTS --

1.Display wizards by house | 2.Display wizards by blood | 3.Search for wizards by starting or ending letters

Enter your choice : 2

Blood Types : Pureblood | Halfblood | Mudblood

Enter blood type to be accessed : halfblood

Name	House	Blood	Gender	DOB
Harry Potter	Gryffindor	Halfblood	Wizard	1980-07-31
Dean Thomas	Gryffindor	Halfblood	Wizard	1980-05-14

No. of halfblood wizards : 2

Return to : 1.Main Menu | 2.Student Database Menu

Enter your choice : _

6.DISPLAYING WIZARDS BY BLOOD

```
C:\WINDOWS\py.exe                                                                                    —  □  ×

------------------------------------------------- SPECIFIC FIELD REPORTS -------------------------------------------------

1.Display wizards by house | 2.Display wizards by blood | 3.Search for wizards by starting or ending letters

Enter your choice : 3

a.Starting | b.Ending

Choose (a/b) : a

Enter starting letter(s) : colin
+--------------+-----------+----------+---------+------------+
|     Name     |   House   |  Blood   | Gender  |    DOB     |
+--------------+-----------+----------+---------+------------+
| Colin Creevey | Ravenclaw | Mudblood | Wizard | 1976-05-08 |
+--------------+-----------+----------+---------+------------+

Number of records found with name starting with 'colin' : 1
------------------------------------------------------------------------------------------------------------------------

Return to : 1.Main Menu | 2.Student Database Menu

Enter your choice :
```

7.SEARCHING FOR WIZARDS BY STARTING LETTERS

```
C:\WINDOWS\py.exe                                                                                    —  □  ×

------------------------------------------------- SPECIFIC FIELD REPORTS -------------------------------------------------

1.Display wizards by house | 2.Display wizards by blood | 3.Search for wizards by starting or ending letters

Enter your choice : 3

a.Starting | b.Ending

Choose (a/b) : b

Enter ending letter(s) : weasley
+----------------+------------+-----------+---------+------------+
|      Name      |   House    |   Blood   | Gender  |    DOB     |
+----------------+------------+-----------+---------+------------+
| Ginny Weasley  | Gryffindor | Pureblood | Witch   | 1981-08-11 |
| George Weasley | Gryffindor | Pureblood | Wizard  | 1978-04-01 |
| Fred Weasley   | Gryffindor | Pureblood | Wizard  | 1978-04-01 |
| Percy Weasley  | Gryffindor | Pureblood | Wizard  | 1976-08-22 |
| Ron Weasley    | gryffindor | Pureblood | wizard  | 1979-08-14 |
+----------------+------------+-----------+---------+------------+

Number of records found with name ending with 'weasley' : 5
------------------------------------------------------------------------------------------------------------------------

Return to : 1.Main Menu | 2.Student Database Menu

Enter your choice : _
```

8.SEARCHING FOR WIZARDS BY ENDING LETTERS

```
C:\WINDOWS\py.exe                                                                                    —  □  ×
Enter your choice : 2
------------------------------------------------------ STUDENTS DATABASE ------------------------------------------------

1.Display all student records | 2.Specific Field Reports | 3.Add new records | 4.Update an existing record | 5.Delete an existing record

Enter your choice : 3


Enter full name : tom riddle

Enter house : slytherin

Enter blood : pureblood

Wizard or Witch? wizard

Enter date of birth in the format yyyy-mm-dd : 1949-03-17

Add more records? (y/n) n
------------------------------------------------------------------------------------------------------------------------

Return to : 1.Main Menu | 2.Student Database Menu

Enter your choice : _
```

9.ADDING NEW RECORD TO STUDENT DATABASE

```
C:\WINDOWS\py.exe                                                                                      —   □   ×
Enter your choice : 2
-------------------------------------------------------- STUDENTS DATABASE --------------------------------------------------------

1.Display all student records | 2.Specific Field Reports | 3.Add new records | 4.Update an existing record | 5.Delete an existing record

Enter your choice : 4


Enter name whose record is to be updated : tom riddle

Which field would you like to update in tom riddle's record?

1.House | 2.Blood | 3.Gender | 4.Date of Birth

Choose your option number : 2

Blood Types : Pureblood | Halfblood | Mudblood

Enter new blood : halfblood

Updated successfully
--------------------------------------------------------------------------------------------------------------------------------

Return to : 1.Main Menu | 2.Student Database Menu

Enter your choice :
```

10.UPDATING EXISTING RECORD IN STUDENT DATABASE

```
C:\WINDOWS\py.exe                                                                                      —   □   ×
Return to : 1.Main Menu | 2.Student Database Menu

Enter your choice : 2
-------------------------------------------------------- STUDENTS DATABASE --------------------------------------------------------

1.Display all student records | 2.Specific Field Reports | 3.Add new records | 4.Update an existing record | 5.Delete an existing record

Enter your choice : 5


Enter name of wizard whose record is to be deleted : tom riddle

Deleted record of tom riddle successfully. . .
--------------------------------------------------------------------------------------------------------------------------------

Return to : 1.Main Menu | 2.Student Database Menu

Enter your choice : _
```

11.DELETING EXISTING RECORD IN STUDENT DATABASE

```
C:\WINDOWS\py.exe                                                                                      —   □   ×
------------------------------------------------------------ HOUSE DATABASE ------------------------------------------------------------


1.Students database | 2.Professors database | 3.Quidditch | 4.Exit

Enter your choice : 3
------------------------------------------------------------ QUIDDITCH MENU ------------------------------------------------------------


1.Yearwise Winners Report | 2.Statistics | 3.Tournament | 4.Archives

Enter your choice :
```

12.QUIDDITCH MENU

```
-------------------------------------------------------------- QUIDDITCH MENU --------------------------------------------------------------


1.Yearwise Winners Report | 2.Statistics | 3.Tournament | 4.Archives

Enter your choice : 1
------------------------------------------------------------- YEARWISE WINNERS REPORT -------------------------------------------------------
+------+-----------+-----------+-----------+-----------+-----------+---------------------+
| Year | Gryffindor | Hufflepuff | Ravenclaw | Slytherin |  Winners  | Head_of_Winning_Team |
+------+-----------+-----------+-----------+-----------+-----------+---------------------+
| 2000 |    350    |    170    |    320    |    180    | Gryffindor | Minerva McGonagall  |
| 2002 |    330    |    300    |    190    |    200    | Gryffindor | Minerva McGonagall  |
| 2003 |    160    |    310    |    310    |    150    | Hufflepuff |   Pomona Sprout     |
+------+-----------+-----------+-----------+-----------+-----------+---------------------+


Return to : 1.Main Menu | 2.Quidditch Database Menu

Enter your choice :
```

13.YEARWISE WINNERS REPORT

```
Enter your choice : 2
-------------------------------------------------------------- QUIDDITCH MENU --------------------------------------------------------------


1.Yearwise Winners Report | 2.Statistics | 3.Tournament | 4.Archives

Enter your choice : 2
----------------------------------------------------------------- STATISTICS ----------------------------------------------------------------

WIN BY THE HIGHEST MARGIN :
+------+--------------+----------------------+------------------+
| Year | Match Number |        Match         | Point Difference |
+------+--------------+----------------------+------------------+
| 2002 |      4       | Hufflepuff vs Slytherin |      190      |
+------+--------------+----------------------+------------------+

WIN BY THE LOWEST MARGIN :
+------+--------------+----------------------+------------------+
| Year | Match Number |        Match         | Point Difference |
+------+--------------+----------------------+------------------+
| 2000 |      4       | Gryffindor vs Ravenclaw |      130      |
+------+--------------+----------------------+------------------+


HOUSE WITH HIGHEST NUMBER OF POINTS IN QUIDDITCH :
+-----------+--------+
|   House   | Points |
+-----------+--------+
| Gryffindor |  840  |
+-----------+--------+

HOUSE WITH LOWEST NUMBER OF POINTS IN QUIDDITCH :
+-----------+--------+
|   House   | Points |
+-----------+--------+
| Slytherin |  530  |
+-----------+--------+
```

14.STATISTICS MENU

```
+-----------+--------+


HOUSE WITH LOWEST NUMBER OF POINTS IN QUIDDITCH :
+-----------+--------+
|   House   | Points |
+-----------+--------+
| Slytherin |  530  |
+-----------+--------+


HOUSE WITH HIGHEST NUMBER OF TOURNAMENT WINS :
+-----------+----------------------+
|   House   | No. of Tournament Wins |
+-----------+----------------------+
| Gryffindor |          2          |
+-----------+----------------------+

HOUSE WITH LOWEST NUMBER OF TOURNAMENT WINS :
+-----------+----------------------+
|   House   | No. of Tournament Wins |
+-----------+----------------------+
| Ravenclaw |          0          |
| Slytherin |          0          |
+-----------+----------------------+

HOUSE WITH HIGHEST NUMBER OF MATCH WINS :
+-----------+------------------+
|   House   | No. of Match Wins |
+-----------+------------------+
| Gryffindor |        6        |
| Ravenclaw |        6         |
+-----------+------------------+

HOUSE WITH LOWEST NUMBER OF MATCH WINS :
+-----------+------------------+
|   House   | No. of Match Wins |
+-----------+------------------+
| Slytherin |        3         |
+-----------+------------------+
```

15.STATISTICS MENU (CONTINUED)

Enter your choice : 2
-- QUIDDITCH MENU --

1.Yearwise Winners Report | 2.Statistics | 3.Tournament | 4.Archives

Enter your choice : 3
--- QUIDDITCH TOURNAMENT ---

 There is no existing tournament going on. Do you want to start a new tournament?

16.TOURNAMENT MODE

Enter your choice : 3
--- QUIDDITCH TOURNAMENT ---

 There is no existing tournament going on. Do you want to start a new tournament? yes

--- NEW TOURNAMENT ---

| HOW THE TOURNAMENT WORKS |

1. Each tournament will consist of 6 matches between the 4 houses of Gryffindor, Hufflepuff, Ravenclaw and Slytherin.

2. At the end of the tournament the house with most points will be declared winner.

3. In the case of a tie for the winning spot, the house with more number of wins will be declared winner.

| POINTS SYSTEM |

1. Each goal scored will add 10 points to the scoreboard for the scoring team.

2. Catching the golden snitch will fetch 150 points for the scoring team and the match is declared over.

3. In the case where no team has yet caught the snitch, the first team to score 250 points is declared winner.

Enter the year : 2005

17.NEW TOURNAMENT

 There is no existing tournament going on. Do you want to start a new tournament? yes

--- NEW TOURNAMENT ---

| HOW THE TOURNAMENT WORKS |

1. Each tournament will consist of 6 matches between the 4 houses of Gryffindor, Hufflepuff, Ravenclaw and Slytherin.

2. At the end of the tournament the house with most points will be declared winner.

3. In the case of a tie for the winning spot, the house with more number of wins will be declared winner.

| POINTS SYSTEM |

1. Each goal scored will add 10 points to the scoreboard for the scoring team.

2. Catching the golden snitch will fetch 150 points for the scoring team and the match is declared over.

3. In the case where no team has yet caught the snitch, the first team to score 250 points is declared winner.

Enter the year : 2005

| MATCHES TO BE HELD IN THIS TOURNAMENT |

Match 1 : Gryffindor vs Ravenclaw

Match 2 : Gryffindor vs Hufflepuff

Match 3 : Ravenclaw vs Slytherin

Match 4 : Hufflepuff vs Slytherin

Match 5 : Gryffindor vs Slytherin

Match 6 : Hufflepuff vs Ravenclaw

Start Match 1 ? _

18.GENERATING MATCHES TO BE HELD

```
| MATCHES TO BE HELD IN THIS TOURNAMENT |

Match 1 : Gryffindor vs Slytherin

Match 2 : Gryffindor vs Hufflepuff

Match 3 : Hufflepuff vs Ravenclaw

Match 4 : Gryffindor vs Ravenclaw

Match 5 : Ravenclaw vs Slytherin

Match 6 : Hufflepuff vs Slytherin

Start Match 1 ? yes
------------------------------------------------------- MATCH 1 -------------------------------------------------------
                                          | Gryffindor vs Slytherin |

| INSTRUCTIONS TO ENTER POINTS |

1. To enter points, enter the first letter of the name of the house that scored.

2. Next, enter 'goal' if the team has scored a goal.

3. Enter 'snitch' if the team has caught the snitch.

House--> _
```

19.MATCH MODE

```
Match 6 : Hufflepuff vs Slytherin

Start Match 1 ? yes
------------------------------------------------------- MATCH 1 -------------------------------------------------------
                                          | Gryffindor vs Slytherin |

| INSTRUCTIONS TO ENTER POINTS |

1. To enter points, enter the first letter of the name of the house that scored.

2. Next, enter 'goal' if the team has scored a goal.

3. Enter 'snitch' if the team has caught the snitch.

House--> s

Goal/Snitch--> goal

Slytherin has scored a goal ! Ten points to Slytherin !

Scores | Gryffindor : 0 , Slytherin : 10

House--> g

Goal/Snitch--> snitch'

Invalid Input. . .

Goal/Snitch--> snitch

Gryffindor has caught the snitch ! Gryffindor wins !

Total Points scored by Gryffindor : 150

Total Points scored by Slytherin : 10
                                            MATCH 1 HAS ENDED
------------------------------------------------------------------------------------------------------------------------

Return to : 1.Main Menu | 2.Quidditch Database Menu

Enter your choice : _
```

20.PLAYING FIRST MATCH

```
Enter your choice : 2
------------------------------------------------------- QUIDDITCH MENU -------------------------------------------------

1.Yearwise Winners Report | 2.Statistics | 3.Tournament | 4.Archives

Enter your choice : 3
------------------------------------------------------- QUIDDITCH TOURNAMENT --------------------------------------------

There is a tournament currently going on.

| COMPLETED MATCHES |
+-----------+-----------+----------+-----------+----------+-----------+
| Match No. |   Team 1  | Points_1 |   Team 2  | Points_2 |  Winners  |
+-----------+-----------+----------+-----------+----------+-----------+
|     1     | Gryffindor|   150    | Slytherin |    10    | Gryffindor|
+-----------+-----------+----------+-----------+----------+-----------+

| POINTS TABLE |
+-----------+-----------+----------+-----------+
| Gryffindor| Hufflepuff| Ravenclaw| Slytherin |
+-----------+-----------+----------+-----------+
|    150    |     0     |    0     |    10     |
+-----------+-----------+----------+-----------+

Gryffindor leads with 150 points.

| REMAINING MATCHES |

Match 2 : Gryffindor vs Hufflepuff

Match 3 : Hufflepuff vs Ravenclaw

Match 4 : Gryffindor vs Ravenclaw

Match 5 : Ravenclaw vs Slytherin

Match 6 : Hufflepuff vs Slytherin

Start Match 2 ?
```

21.PLAYING NEXT MATCH BY GOING BACK TO TOURNAMENT MENU

```
C:\WINDOWS\py.exe                                                                    —   □   ×
Start Match 2 ? yes
--------------------------------------------------- MATCH 2 ---------------------------------------------------
                                           | Gryffindor vs Hufflepuff |

| INSTRUCTIONS TO ENTER POINTS |

1. To enter points, enter the first letter of the name of the house that scored.

2. Next, enter 'goal' if the team has scored a goal.

3. Enter 'snitch' if the team has caught the snitch.

House--> h

Goal/Snitch--> goal


Hufflepuff has scored a goal ! Ten points to Hufflepuff !

Scores | Gryffindor : 0 , Hufflepuff : 10

House--> g

Goal/Snitch--> goal

Gryffindor has scored a goal ! Ten points to Gryffindor !

Scores | Gryffindor : 10 , Hufflepuff : 10

House--> h

Goal/Snitch--> snitch


Hufflepuff has caught the snitch ! Hufflepuff wins !

Total Points scored by Gryffindor : 10

Total Points scored by Hufflepuff : 160
                                           MATCH 2 HAS ENDED
--------------------------------------------------------------------------------------------------------------
```

22.PLAYING REMAINING MATCHES

```
C:\WINDOWS\py.exe                                                                    —   □   ×
Match 6 : Hufflepuff vs Slytherin

Start Match 6 ? yes
--------------------------------------------------- MATCH 6 ---------------------------------------------------
                                           | Hufflepuff vs Slytherin |

| INSTRUCTIONS TO ENTER POINTS |

1. To enter points, enter the first letter of the name of the house that scored.

2. Next, enter 'goal' if the team has scored a goal.

3. Enter 'snitch' if the team has caught the snitch.

House--> h

Goal/Snitch--> goal

Hufflepuff has scored a goal ! Ten points to Hufflepuff !

Scores | Hufflepuff : 10 , Slytherin : 0

House--> s

Goal/Snitch--> snitch


Slytherin has caught the snitch ! Slytherin wins !

Total Points scored by Hufflepuff : 10

Total Points scored by Slytherin : 150
                                           MATCH 6 HAS ENDED
--------------------------------------------------------------------------------------------------------------

Return to : 1.Main Menu | 2.Quidditch Database Menu

Enter your choice : _
```

23.PLAYING LAST MATCH

```
C:\WINDOWS\py.exe                                                                    —   □   ×
Enter your choice : 2
--------------------------------------------------- QUIDDITCH MENU ---------------------------------------------------


1.Yearwise Winners Report | 2.Statistics | 3.Tournament | 4.Archives

Enter your choice : 3
--------------------------------------------------- QUIDDITCH TOURNAMENT ---------------------------------------------------

The previous tournament has ended.


| MATCHES HELD IN THIS TOURNAMENT |
+----------+------------+----------+------------+----------+------------+
| Match No. |  Team 1   | Points_1 |   Team 2   | Points_2 |  Winners   |
+----------+------------+----------+------------+----------+------------+
|    1     | Gryffindor |   150    | Slytherin  |    10    | Gryffindor |
|    2     | Gryffindor |    10    | Hufflepuff |   160    | Hufflepuff |
|    3     | Hufflepuff |    10    | Ravenclaw  |   150    | Ravenclaw  |
|    4     | Gryffindor |    0     | Ravenclaw  |   150    | Ravenclaw  |
|    5     | Ravenclaw  |   150    | Slytherin  |    0     | Ravenclaw  |
|    6     | Hufflepuff |    10    | Slytherin  |   150    | Slytherin  |
+----------+------------+----------+------------+----------+------------+

| POINTS TABLE |
+------------+------------+-----------+-----------+
| Gryffindor | Hufflepuff | Ravenclaw | Slytherin |
+------------+------------+-----------+-----------+
|    160     |    180     |    450    |    160    |
+------------+------------+-----------+-----------+

WINNERS OF THE 2005 QUIDDITCH CUP : Ravenclaw !

CONGRATULATIONS !
--------------------------------------------------------------------------------------------------------------

Return to : 1.Main Menu | 2.Quidditch Database Menu

Enter your choice :
```

24.TOURNAMENT MENU AFTER LAST MATCH HAS BEEN PLAYED

25.YEARWISE WINNERS REPORT UPDATED

26.ARCHIVES MENU

27.SHOWING POINTS TABLE OF INPUTED YEAR

28.SELECTING MATCH LOGS SHOWS ALL MATCHES OF THAT YEAR

29.SELECTING MATCH NUMBER PRODUCES THE MATCH LOG

30.SELECTING SCORES AGAIN SHOWS ALL MATCHES OF THAT YEAR

```
C:\WINDOWS\py.exe                                                                              —    □    ×
Enter the year : 2002

1.Points Table | 2.Match Logs | 3.Scores

Enter your choice : 3

Match 1 : Ravenclaw vs Slytherin

Match 2 : Gryffindor vs Ravenclaw

Match 3 : Gryffindor vs Hufflepuff

Match 4 : Hufflepuff vs Slytherin

Match 5 : Hufflepuff vs Ravenclaw

Match 6 : Gryffindor vs Slytherin

Enter match number (1-6) : 2
----------------------------------------------------------------------------------------------------

| MATCH 2 |

Gryffindor vs Ravenclaw

Gryffindor : 180 , Ravenclaw : 10 | Winners : Gryffindor

----------------------------------------------------------------------------------------------------
Return to : 1.Main Menu | 2.Quidditch Database Menu

Enter your choice : _
```

31.ENTERING MATCH NUMBER PRODUCES SCORES FOR THAT MATCH

SUGGESTED IMPROVEMENTS

- To add login credentials for users.

- To generate more results.

- To reduce unnecessary code.

- To add more useful functions.

- To improve output format.

BIBLIOGRAPHY

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    BY SUMITA ARORA

2. COMPUTER SCIENCE PYTHON CLASS 12

    BY SUMITA ARORA