

University Roll Number =>

2315000418

01.Basic Calculator

```
print("~~~~~Welcome to Basic Calculator~~~~~")

num1 = float(input("Enter a First number here : "))
num2 = float(input("Enter a Second number here : "))

print("Press 1 for Addition\nPress 2 For Subtraction\nPress 3 for
multiipication\nPress 4 for Division :")

ch = int(input("Enter Your Choice From 1--4: "))

if ch == 1 :
    print("The addition of given Two numbers is",num1+num2)

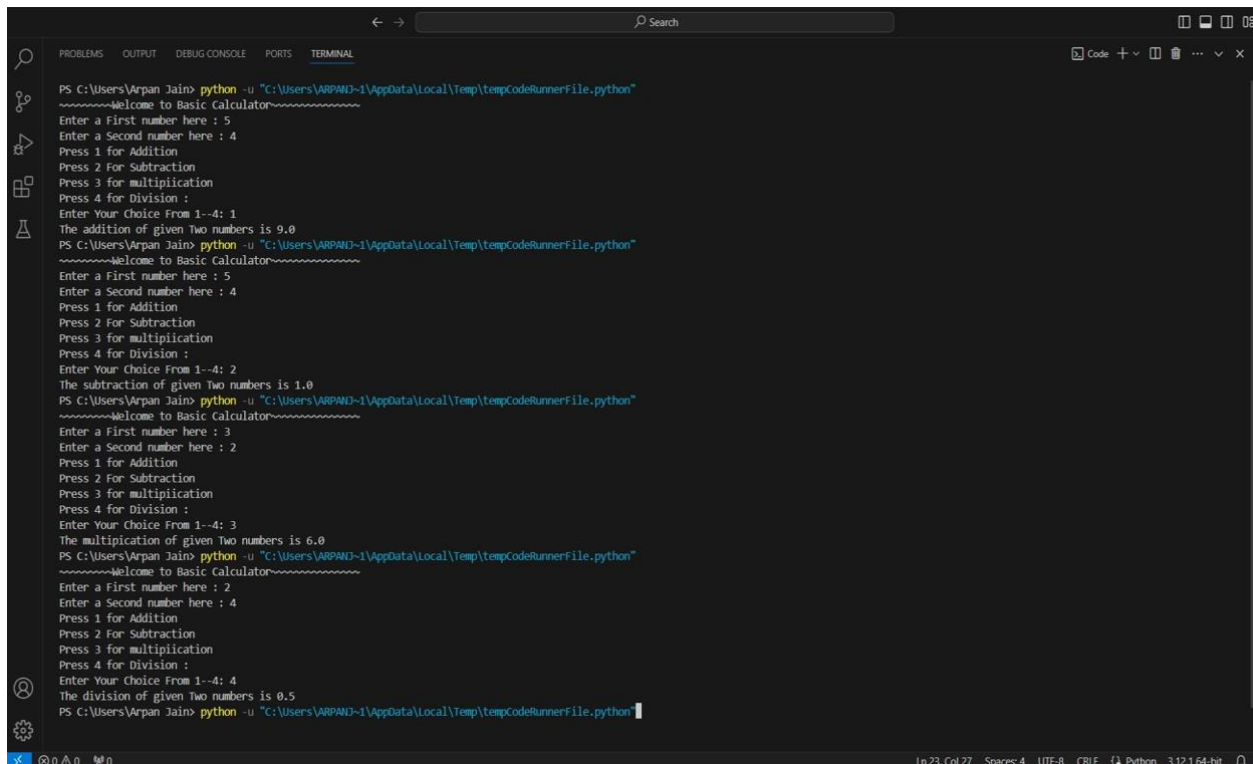
elif ch == 2:
    print("The subtraction of given Two numbers is",num1-num2)

elif ch == 3:
    print("The multiplication of given Two numbers is",num1*num2)

elif ch == 4:
    print("The division of given Two numbers is",num1/num2)

else:
    print("invalid Input")
```

Output=>



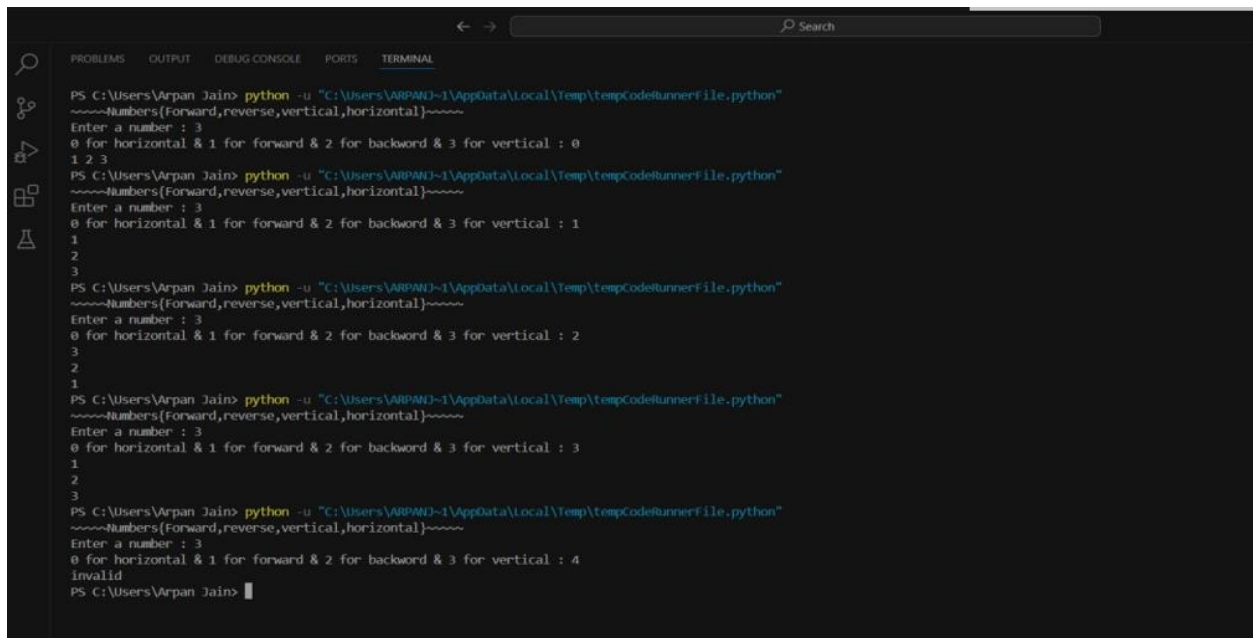
```
PS C:\Users\Varpan Jain> python -u "C:\Users\ARPAND-1\AppData\Local\Temp\tmpCodeRunnerFile.python"
~~~~~Welcome to Basic Calculator~~~~~
Enter a First number here : 5
Enter a Second number here : 4
Press 1 for Addition
Press 2 for Subtraction
Press 3 for multiplication
Press 4 for Division :
Enter Your Choice From 1--4: 1
The addition of given Two numbers is 9.0
PS C:\Users\Varpan Jain> python -u "C:\Users\ARPAND-1\AppData\Local\Temp\tmpCodeRunnerFile.python"
~~~~~Welcome to Basic Calculator~~~~~
Enter a First number here : 5
Enter a Second number here : 4
Press 1 for Addition
Press 2 for Subtraction
Press 3 for multiplication
Press 4 for Division :
Enter Your Choice From 1--4: 2
The subtraction of given Two numbers is 1.0
PS C:\Users\Varpan Jain> python -u "C:\Users\ARPAND-1\AppData\Local\Temp\tmpCodeRunnerFile.python"
~~~~~Welcome to Basic Calculator~~~~~
Enter a First number here : 3
Enter a Second number here : 2
Press 1 for Addition
Press 2 for Subtraction
Press 3 for multiplication
Press 4 for Division :
Enter Your Choice From 1--4: 3
The multiplication of given Two numbers is 6.0
PS C:\Users\Varpan Jain> python -u "C:\Users\ARPAND-1\AppData\Local\Temp\tmpCodeRunnerFile.python"
~~~~~Welcome to Basic Calculator~~~~~
Enter a First number here : 2
Enter a Second number here : 4
Press 1 for Addition
Press 2 for Subtraction
Press 3 for multiplication
Press 4 for Division :
Enter Your Choice From 1--4: 4
The division of given Two numbers is 0.5
PS C:\Users\Varpan Jain> python -u "C:\Users\ARPAND-1\AppData\Local\Temp\tmpCodeRunnerFile.python"
```

02.Number System

```
print("~~~~~Numbers{Forward,reverse,vertical,horizontal}~~~~~")
a = int(input("Enter a number : "))
choice = int (input("0 for horizontal & 1 for forward & 2 for backword & 3 for
vertical : "))

if choice == 1:                                #forward
    for i in range (1,a+1,1):
        print(i)
elif choice == 0:
    for j in range (1,a+1,1):                  #horizontal
        print(j,end=' ')
elif choice == 2:
    for k in range (a,0,-1):                   #backward
        print(k)
elif choice == 3:
    for l in range (1,a+1,1):                  #vertical
        print(l)
else:
    print("invalid")
```

Output=>



```
PS C:\Users\Arpan Jain> python -u "C:\Users\ARPMJD~1\AppData\Local\Temp\tmpCodeRunnerFile.python"
~~~~Numbers{Forward,reverse,vertical,horizontal}~~~~
Enter a number : 0
0 for horizontal & 1 for forward & 2 for backward & 3 for vertical : 0
1
2
3
PS C:\Users\Arpan Jain> python -u "C:\Users\ARPMJD~1\AppData\Local\Temp\tmpCodeRunnerFile.python"
~~~~Numbers{Forward,reverse,vertical,horizontal}~~~~
Enter a number : 1
0 for horizontal & 1 for forward & 2 for backward & 3 for vertical : 1
1
2
3
PS C:\Users\Arpan Jain> python -u "C:\Users\ARPMJD~1\AppData\Local\Temp\tmpCodeRunnerFile.python"
~~~~Numbers{Forward,reverse,vertical,horizontal}~~~~
Enter a number : 2
0 for horizontal & 1 for forward & 2 for backward & 3 for vertical : 2
3
2
1
PS C:\Users\Arpan Jain> python -u "C:\Users\ARPMJD~1\AppData\Local\Temp\tmpCodeRunnerFile.python"
~~~~Numbers{Forward,reverse,vertical,horizontal}~~~~
Enter a number : 3
0 for horizontal & 1 for forward & 2 for backward & 3 for vertical : 3
1
2
3
PS C:\Users\Arpan Jain> python -u "C:\Users\ARPMJD~1\AppData\Local\Temp\tmpCodeRunnerFile.python"
~~~~Numbers{Forward,reverse,vertical,horizontal}~~~~
Enter a number : 4
0 for horizontal & 1 for forward & 2 for backward & 3 for vertical : 4
Invalid
PS C:\Users\Arpan Jain>
```

03.Voting System

```
print("~~~~Welcome To Vote~~~~")

age = int(input("Enter Your age : "))
if age >=18:
    print("You are eligible to vote..")
    print("1 for 'BJP'\n2 for 'AAP'\n3 for 'BSP'\n4 for 'CPI(M)'\n5 for 'INC'\n5
for 'NPP' : ")

    choice = int(input("Enter your voting number : "))
    if choice == 1:
        print("Your Vote For BJP")
    elif choice == 2:
        print("Your Vote For AAP")
    elif choice == 3:
        print("Your Vote For BSP")
    elif choice == 4:
        print("Your Vote For INC")
    elif choice == 5:
        print("Your Vote For NPP")
    else:
```

```

        print("invalid Choice: ")

else:
    print("You are note eligible to vote")

```

Output=>

```

PS C:\Users\Arpan Jain> python -u "c:\Users\Arpan Jain\OneDrive\Attachments\Desktop\Languages\Python\Arpan_jain\Mini project\Voting System.py"
Enter Your age : 18
You are eligible to vote..
1 for 'BJP'
2 for 'AAP'
3 for 'BSP'
4 for 'CPI(M)'
5 for 'INC'
5 for 'NPP' :
Enter your voting number : 1
BJP
PS C:\Users\Arpan Jain> python -u "c:\Users\Arpan Jain\OneDrive\Attachments\Desktop\Languages\Python\Arpan_jain\Mini project\Voting System.py"
Enter Your age : 20
You are eligible to vote..
1 for 'BJP'
2 for 'AAP'
3 for 'BSP'
4 for 'CPI(M)'
5 for 'INC'
5 for 'NPP' :
Enter your voting number : 6
invalid Choice:
PS C:\Users\Arpan Jain> python -u "c:\Users\Arpan Jain\OneDrive\Attachments\Desktop\Languages\Python\Arpan_jain\Mini project\Voting System.py"
Enter Your age : 17
You are note eligible to vote
PS C:\Users\Arpan Jain>

```

04.Grading System

```

print("~~~~Welcome in grading Software~~~~")

s1 = float(input("Enter marks for Subject 1 : "))
s2 = float(input("Enter marks for Subject 2 : "))
s3 = float(input("Enter marks for Subject 3 : "))
s4 = float(input("Enter marks for Subject 4 : "))
s5 = float(input("Enter marks for Subject 5 : "))

t_m = s1 + s2 + s3 + s4 + s5
average_marks = t_m / 5

if average_marks >= 90:
    grade = "A++"
elif average_marks >= 80:
    grade = "A+"
elif average_marks >= 70:

```

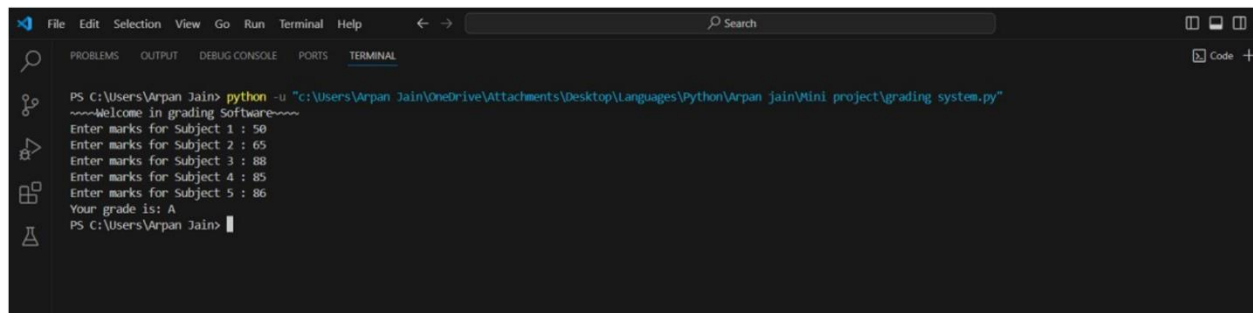
```

    grade = "A"
elif average_marks >= 60:
    grade = "B+"
elif average_marks >= 50:
    grade = "B"
elif average_marks >= 40:
    grade = "C"
else:
    grade = "F"

print("Your grade is:", grade)

```

Output=>



```

PS C:\Users\Arpan Jain> python -u "C:\Users\Arpan Jain\OneDrive\Attachments\Desktop\Languages\Python\Arpan Jain\Mini project\grading system.py"
~~~~~Welcome in grading Software~~~~~
Enter marks for Subject 1 : 50
Enter marks for Subject 2 : 65
Enter marks for Subject 3 : 88
Enter marks for Subject 4 : 85
Enter marks for Subject 5 : 86
Your grade is: A
PS C:\Users\Arpan Jain>

```

05.Inventory System

```

print("~~~~~Welcome to inventory System~~~~~")

menu = {"chowmein":50,
        "banana shake":65,
        'faluda':20,
        "kachori":10,
        "patties":10,
        "burger":40,
        "pizza ":45,
        "iphone":150000,
        "mango sack":45,
        "musammi":50}

amount = int(input("enter your amount : "))

print(menu)
buying_products = int(input("how many product you want to buy : "))

```

```

selected_products = {}
for i in range(1,buying_products+1):
    item = input("enter your buying product : ").lower().strip()
    item_qun = int(input("enter your quantity : "))
    if item not in menu.keys():
        print("this item is not available ")
        print("please place the order from the above products ")
        for j in range(i,buying_products+1):
            item = input("enter your buying product : ").lower().strip()
            item_qun = int(input("enter your quantity : "))

    else:
        selected_products[item] = item_qun

more = input("do you want to add more (y/n) : ").lower()

if more == "y":
    buying_p = int(input("how many products do you want to buy : "))
    for items in range(buying_p):
        item = input("item : ")
        item_qun = int(input("quantity : "))
        selected_products[item] = item_qun

sum = 0
print("products you are buying : ",selected_products)
for k1,v1 in selected_products.items():
    total = 0
    total = total + selected_products[k1]*v1
    print(k1,":",total)
    sum = sum + selected_products[k1]*v1
print("total amount is : ",sum)
print('rest amount in card : ',amount - sum)

```

Output=>

```
File Edit Selection View Go Run Terminal Help
PS C:\Users\Arpan Jain> python -u "c:\Users\Arpan Jain\OneDrive\Attachments\Desktop\Languages\Python\Arpan Jain\Mini project\inventory system.py"
~~~~~Welcome to inventory System~~~~~
enter your amount : 100
{'chowmein': 50, 'banana shake': 65, 'faluda': 20, 'kachori': 10, 'patties': 10, 'burger': 40, 'pizza ': 45, 'iphone': 150000, 'mango sack': 45, 'musammi': 50}
how many product you want to buy : 3
enter your buying product : chowmein
enter your quantity : 1
enter your buying product : faluda
enter your quantity : 2
enter your buying product : kachori
enter your quantity : 1
do you want to add more (y/n) : y
how many products do you want to buy : 3
item : chowmein
quantity : 1
item : faluda
quantity : 2
item : kachori
quantity : 1
products you are buying : {'chowmein': 1, 'faluda': 2, 'kachori': 1}
chowmein : 1
faluda : 4
kachori : 1
total amount is : 6
rest amount in card : 94
PS C:\Users\Arpan Jain>
```

06.Number Guessing Game

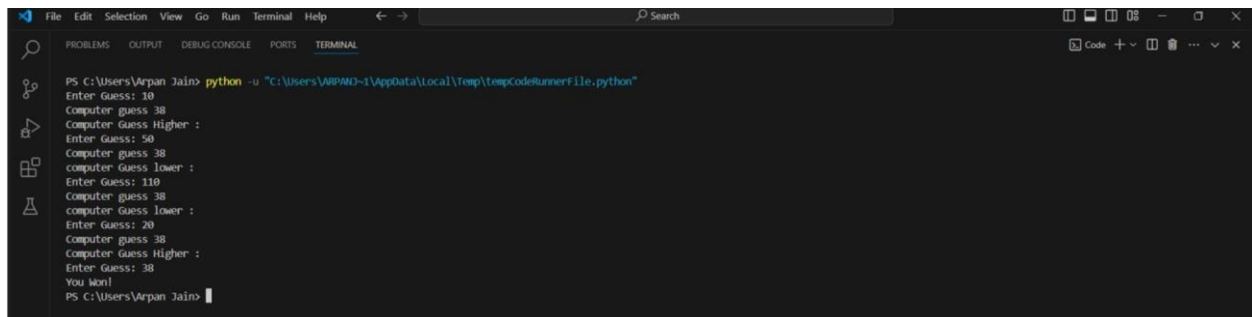
```
print("~~~~~Welcome to the number guessing game~~~~~")

import random

number = random.randint(1,100)
guess = 0
while guess != number:
    guess = int(input("Enter Guess: "))

    if guess<number:
        print("Computer guess",number)
        print("Computer Guess Higher :")
    elif guess > number:
        print("Computer guess",number)
        print("computer Guess lower :")
    else:
        print("You Won!")
```

Output=>



```
PS C:\Users\Arpan Jain> python -u "C:\Users\ARPANJ~1\AppData\Local\Temp\tmpCodeRunnerFile.python"
Enter Guess: 10
Computer guess: 38
Computer Guess Higher:
Enter Guess: 50
Computer guess: 38
Computer Guess Lower:
Enter Guess: 110
Computer guess: 38
Computer Guess Lower:
Enter Guess: 20
Computer guess: 38
Computer Guess Higher:
Enter Guess: 38
You Won!
PS C:\Users\Arpan Jain>
```

07.Roll The Dice Game

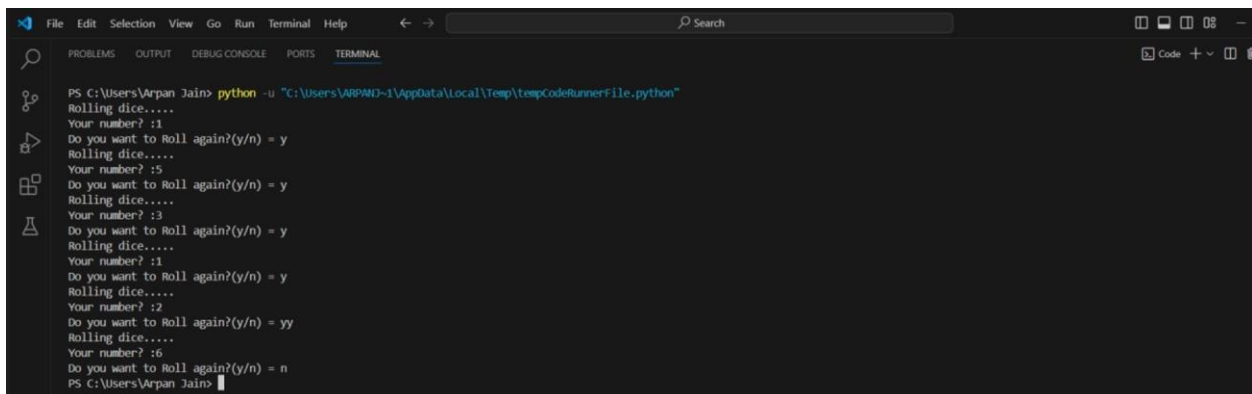
```
print("~~~~~Welcome Roll the dice game~~~~~")

import random

def rolldice(min, max):
    while True:
        print("Rolling dice.....")
        number = random.randint(min, max)
        print(f"Your number? :{number}")
        choice = input('Do you want to Roll again?(y/n) = ')
        if choice.lower() == 'n':
            break

rolldice(1,6)
```

Output=>



```
PS C:\Users\Arpan Jain> python -u "C:\Users\ARPANJ~1\AppData\Local\Temp\tmpCodeRunnerFile.python"
Rolling dice.....
Your number? :1
Do you want to Roll again?(y/n) = y
Rolling dice.....
Your number? :5
Do you want to Roll again?(y/n) = y
Rolling dice.....
Your number? :3
Do you want to Roll again?(y/n) = y
Rolling dice.....
Your number? :1
Do you want to Roll again?(y/n) = y
Rolling dice.....
Your number? :2
Do you want to Roll again?(y/n) = yy
Rolling dice.....
Your number? :6
Do you want to Roll again?(y/n) = n
PS C:\Users\Arpan Jain>
```

08.Rock Paper Scissor Game


```

print("~~~~~Welcome to the rock paper scissor game~~~~~")

import random
choices = ['rock', 'paper', 'scissor']
print(*choices, sep="\n")

def game():
    computer = random.choice(choices)
    user = input('Your choice is: ').lower()

    if user not in choices:
        while True:
            print('Invalid input')
            user = input('Enter a valid choice: ')
            if user in choices:
                print('its valid')
                break
            else:
                continue
    print(f'Computer\'s choice: {computer}')

    if computer == user:
        print("Draw")
    elif computer == "rock" and user == "paper":
        print("User won!!!")
    elif computer == "scissor" and user == "paper":
        print("Computer won!!!")
    elif computer == "rock" and user == "scissor":
        print("Computer won!!!")
    elif computer == "scissor" and user == "rock":
        print("User won!!!")
    elif computer == "paper" and user == "rock":
        print("Computer won!!!")
    elif computer == "paper" and user == "scissor":
        print("User won!!!")
while True:
    game()
    more = input('Want to play again?: ')
    if more == "n":
        print("Thanks to play the game")
        break

```

Output=>

```
File Edit Selection View Go Run Terminal Help
PS C:\Users\Arpan Jain> python -u "C:\Users\ARPNJ-1\AppData\Local\Temp\tmpCodeRunnerFile.python"
rock
paper
scissor
Your choice is: paper
Computer's choice: rock
User won!!!
Want to play again?: yes
Your choice is: scissor
Computer's choice: paper
User won!!!
Want to play again?:
```

09.Student Management System

```
print("~~~~Student Management System~~~~")

def readMode():
    myFile = open("C:\\Users\\Arpan Jain\\OneDrive\\Attachments\\Desktop\\Languages\\Python\\Arpan jain\\Mini project\\system.txt", "r")
    dict = eval(myFile.read())
    myFile.close()
    return dict

def writeMode(data):
    myFile = open("C:\\Users\\Arpan Jain\\OneDrive\\Attachments\\Desktop\\Languages\\Python\\Arpan jain\\Mini project\\system.txt", "w")

    myFile.write(str(data))

    myFile.close()

def displayStudent():
    print('Ids of Students available:')
    for index, ids in enumerate(data):
        print(f'{index+1}: {ids}')

    id = int(input("\nWhich id's details you would like to see: "))

    if id not in data:
        print('This Student ID does not Exist!!')
    else:
```

```

        student = data.get(id)
        print(f'\n{'-' * 30}')
        print(f'Name: {student[0]}')
        print(f'Section: {student[1]}')
        print(f'Roll Number: {id}')
        print(f'CPI: {student[2]}')
        print(f'\n{'-' * 30}')

def addStudent():
    id = int(input('\nEnter Student Id(Roll no.): '))
    if id in data:
        print('This ID already exists!! Cannot add new Student with same ID.')
    else:
        detail = input('Enter your details(Ex.Name, Section, CPI): ').split(',')
        data[id] = detail
        print('New Student is Added Successfully!!')

def updateStudent():
    id = int(input('\nEnter your Student Id you want to update: '))
    if id not in data:
        print('This Student ID does not Exist!!')
    else:
        detail = input('Enter your details(Ex.Name, Section, CPI): ').split(',')
        data[id] = detail
        print('Existing Student is Updated Successfully!!')

def deleteStudent():
    id = int(input('\nEnter which Student Id you want to delete: '))
    if id not in data:
        print('This Student ID does not exist!!')
    else:
        del data[id]
        print('Student is Deleted Successfully!!')

data = readMode()

while True:
    print(f'\n{'='*40}\n')

    print(
        '1. Display Student Details',
        '2. Add a new Student',
        '3. Update a Student Detail',
        '4. Delete an existing Student',
        '5. Exit', sep='\n'
    )

```

```

    )

    user_choice = int(input('\nEnter Your Choice: '))

    if user_choice == 1:
        displayStudent()
    elif user_choice == 2:
        addStudent()
    elif user_choice == 3:
        updateStudent()
    elif user_choice == 4:
        deleteStudent()
    elif user_choice == 5:
        print(f'{'-' * 30}')
        print('Thanks for using this software!!')
        print(f'{'-' * 30}')
        break
    else:
        print('Invalid Choice!!')

writeMode(data)

```

Output=>

```

File Edit Selection View Go Run Terminal Help
Search

PROBLEMS OUTPUT DEBUG CONSOLE PORTS TERMINAL

Enter Your Choice: 1
Ids of Students available:
1: 15
2: 23
3: 12
4: 13
5: 8

Which id's details you would like to see: 15

-----
Name: Arpan Jain
Section: BA
Roll Number: 15
CPI: 9.5
-----

1. Display Student Details
2. Add a new Student
3. Update a Student Detail
4. Delete an existing Student
5. Exit

Enter Your Choice: 5

-----
Thanks for using this software!!
-----
PS C:\Users\Arpan Jain>

```

====THE END====