3th_sep_python_controlflow

October 13, 2023

```
[ ]: # #1. Write a Python program to check if a given number is positive or negative.
```

```
[4]: x=10
     if x>=10 :
         print('the given number is positive')
     elif x<=10:
         print('the number is negative')
```

```
the given number is positive
```

```
[ ]: # #2. Create a program that determines if a person is eligible to vote based
     ↪on  their age.
```

```
[6]: age = int(input('enter the age'))
     if age < 0:
         print('not eligible for vote')
     elif 0<=age<=17:
         print('not eligible')
     elif 17<=age<=24:
         print('the person is eligible for vote')
```

```
enter the age 23
```

```
the person is eligible for vote
```

```
[ ]: # #3. Develop a program to find the maximum of two numbers using if-else␣␣
     ↪ statements.
```

```
[10]: num1 = int(input('enter the first number'))
      num2 = int(input('enter the second number'))
      if num1>=num2:
          largest = num1
          print('largest number is',largest)
      elif num1<=num2:
          largest = num2
          print('largest number is ', largest)
```

```
enter the first number 10
enter the second number 20
```

```
largest number is   20
```

[ ]: `# #4. Write a Python script to classify a given year as a leap year or not.`

[11]:
```python
year=int(input("Enter year to be checked:"))
if(year%4==0 and year%100!=0 or year%400==0):
    print("The year is a leap year!")
else:
    print("The year isn't a leap year!")
```

```
Enter year to be checked: 4

The year is a leap year!
```

[ ]: `#5. Create a program that checks whether a character is a vowel or a consonant.`

[14]:
```python
c = input('enter an character')
# checking for vowels
if c == 'a' or c == 'e' or c == 'i' or c == 'o' or c == 'u' or c == 'A' or c
 →=='E' or c == 'I' or c == 'O' or c == 'U':
    print(c, "is a vowel") # condition true input is vowel
else:
    print(c, "is a consonant") # condition true input is consonant
```

```
enter an character r

r is a consonant
```

[ ]: `# #6. Implement a program to determine whether a given number is even or odd.`

[15]:
```python
num = int(input('enter an given number'))
if num%2 == 0:
    print('given number is even number')
else:
    print('given number is odd number')
```

```
enter an given number 45

given number is odd number
```

[ ]: `# #7. Write a Python function to calculate the absolute value of a number`
`→without  using the `abs()` function.`

[28]:
```python
def absolute_value(num):
    """This function returns the absolute
    value of the entered number"""
    if num >= 0:
        return num
    else:
```

```
        return -num
# Test the function with positive, negative, and zero values
print(absolute_value(10))
print(absolute_value(-20))
print(absolute_value(0))
```

```
10
20
0
```

[ ]: # #8. Develop a program that determines the largest of three given numbers␣
     ↪using␣ if-else statements.

[22]:
```
num1=10
num2=20
num3=30
if (num1>=num2) and (num1>=num3):
    largest=num1
    print("largest number is",largest)
elif (num2>=num1) and (num2>=num3):
    largest=num2
    print("largest number is",largest)
else:
    largest=num3
    print("largest number is",largest)
```

```
largest number is 30
```

[ ]: #9. Create a program that checks if a given string is a palindrome.

[23]:
```
s = 'vish'
s1 ='hsiv'
if s == s1:
    print('given string is palindrom')
else:
    print('given string is not palindrom')
```

```
given string is not palindrom
```

[ ]: #10. Write a Python program to calculate the grade based on a student's score.

[24]:
```
student1 = int(input('enter the score'))
student2 = int(input('enter the score'))
if student1 >=90:
    print('excellent score with grade +a')
elif student2 <=90:
    print('good score with grade b+')
```

```
    else:
        print('score is not given')
```

enter the score 30
enter the score 50

good score with grade b+

[ ]:   *#NESTED IF-ELSE*

[ ]: *##11. Write a program to find the largest among three numbers using nested␣␣*
 ↪ if-else statements.

```
[25]: num1=10
      num2=20
      num3=30
      if (num1>=num2) and (num1>=num3):
          largest=num1
          print("largest number is",largest)
      elif (num2>=num1) and (num2>=num3):
          largest=num2
          print("largest number is",largest)
      else:
          largest=num3
          print("largest number is",largest)
```

largest number is 30

[ ]: *# #12. Implement a program to determine if a triangle is equilateral,␣*
 ↪isosceles,␣ or scalene.

```
[26]: side1 = int(input('enter the side of tringle'))
      side2 = int(input('enter the side of tringle'))
      side3 = int(input('enter the side of tringle'))
      if side1 == side2 == side3:
          print('given triangle is equilateral triangle')
      elif side1 == side2 != side3:
          print('given triangle is isoceles triangle')
      elif side1 != side2 != side3:
          print('given triangle is scalene triangle')
```

enter the side of tringle 3
enter the side of tringle 4
enter the side of tringle 2

given triangle is scalene triangle

[ ]: `#`
```

```
[27]:  year1 = int(input('enter an year'))
       year2 = int(input('enter an year'))
       # To get year (integer input) from the user
       # year = int(input("Enter a year: "))
       # divided by 100 means century year (ending with 00)
       # century year divided by 400 is leap year
       if (year % 400 == 0) and (year % 100 == 0):
           print("{0} is a leap year".format(year))
       # not divided by 100 means not a century year
       # year divided by 4 is a leap year
       elif (year % 4 ==0) and (year2 % 100 != 0):
           print("{0} is a leap year".format(year))
       # if not divided by both 400 (century year) and 4 (not century year)
       # year is not leap year
       else:
           print("{0} is not a leap year".format(year))
```

```
enter an year 4
enter an year 5

4 is a leap year
```

```
[ ]:  # #14. Write a Python script to determine if a number is positive, negative,␣
      ↪or␣ zero.
```

```
[29]:   num = int(input('enter a number'))
       if num<=0:
           print(' the number is negative ')
       elif num>=0:
           print('the number is positive')
       elif num == 0:
           print('the number is zero')
```

```
enter a number 45

the number is positive
```

```
[ ]:  # #15. Create a program to check if a person is a teenager (between 13 and 19␣␣
      ↪ years old).
```

```
[30]:  age = int(input(' enter the age of person'))
       if 1<=age<=6 :
           print(' the person is baby')
       elif 6<=age<=12:
           print(' the person is middle age')
       elif 13<=age<=19:
           print('the person is teenager')
       elif 19<=age<=23:
```

```
    print('the person is adult')
```

enter the age of person 45

```
[ ]: # #16. Develop a program that determines the type of angle based on its measure␣
     ↪ (acute, obtuse, or right).
```

```
[31]: angle = int(input('enter an angle'))
      if angle <= 90:
          print('the angle is acute')
      elif 90<=angle<=180 :
          print('the angle is obtuse')
      elif angle == 90:
          print('the angle is right angle')
```

enter an angle 30

the angle is acute

```
[ ]: # #17. Write a Python program to calculate the roots of a quadratic equation.
```

```
[32]: from math import sqrt
      print("Quadratic function : (a * x^2) + b*x + c")
      a = float(input("Enter the a Number :"))
      b = float(input("Enter the b Number :"))
      c = float(input("Enter the c Number :"))
      r = b**2 - 4*a*c
      if( r > 0):
          num_roots = 2
          x1 = (((-b) + sqrt(r))/(2*a))
          x2 = (((-b) - sqrt(r))/(2*a))
          print("There are Two Roots: ",x1, "and",x2)
      elif(r == 0):
          num_roots = 1
          x = (-b) / 2*a
          print("There is one Root: ", x)
      else:
          num_roots = 0
          print("No roots")
      exit()
```

Quadratic function : (a * x^2) + b*x + c

Enter the a Number : 4
Enter the b Number : 6
Enter the c Number : 9

No roots

```
[27]:  #18. Implement a program to determine the day of the week based on a↵↵
        ↪ user-provided number (1 for Monday, 2for Tuesday, etc.).
       num = int(input('enter a number'))
       if num == 1:
           print('monday')
       elif num == 2:
           print('tuesday')
       elif num == 3:
           print('wednesday')
       elif num == 4:
           print('thursday')
       elif num == 5:
           print('friday')
       elif num == 6:
           print('saturday')
       elif num == 7:
           print('sunday')
```

enter a number 6

saturday

```
[8]:   #18. Implement a program to determine the day of the week based on a↵↵
        ↪ user-provided number (1 for Monday, 2for Tuesday, etc.).
       num = int(input('enter a number'))
       if num == 1:
           print('monday')
       elif num == 2:
           print('tuesday')
       elif num == 3:
           print('wednesday')
       elif num == 4:

           print('thursday')
       elif num == 5:
           print('friday')
       elif num == 6:
           print('saturday')
       elif num == 7:
           print('sunday')
```

enter a number 23

```
[11]:  #19. Create a program that determines if a year is a leap year and also if it↵↵
        ↪ is evenly divisible by 400.
       year = 2000
       # To get year (integer input) from the user
       # year = int(input("Enter a year: "))
```

```python
# divided by 100 means century year (ending with 00)
# century year divided by 400 is leap year
if (year % 400 == 0) and (year % 100 == 0):
    print("{0} is a leap year".format(year))
# not divided by 100 means not a century year
# year divided by 4 is a leap year
elif (year % 4 ==0) and (year % 100 != 0):
    print("{0} is a leap year".format(year))
# if not divided by both 400 (century year) and 4 (not century year)
# year is not leap year
else:
    print("{0} is not a leap year".format(year))
```

2000 is a leap year

```
[ ]: #20. Develop a program that checks if a given number is prime or not
     ↪using nested if-else statements.
```

```python
[26]: num = int(input('enter a number'))
if num > 1:
    for i in range(2, int(num/2)+1):
        if (num % i) == 0:
            print(num, "is not a prime number")
            break
    else:
        print(num, "is a prime number")
else:
    print(num, "is not a prime number")
```

enter a number 34

34 is not a prime number

```
[ ]:
```

```
[ ]:
```

```python
[21]: # #21. Write a Python program to assign grades based on different ranges of
      ↪scores using elif statements
grade = int(input(' enter a numbeer '))
if 10<=grade<=30:
    print('F')
elif 30<=grade<=40:
    print('E')
elif 40<=grade<=50:
    print('D')
elif 50<=grade<=60:
    print('c')
```

```
elif 60<=grade<=70:
    print('b')
elif 70<=grade<=80:
    print('+B')
elif 80<=grade<=90:
    print('A')
elif 90<=grade<=100:
    print('+A')
```

```
enter a grade  50

D
```

[22]:
```
#22. Implement a program to determine the type of a triangle based on its
     angles.
side1 = int(input('enter the side of tringle'))
side2 = int(input('enter the side of tringle'))
side3 = int(input('enter the side of tringle'))
if side1 == side2 == side3:
    print('given triangle is equilateral triangle')
elif side1 == side2 != side3:
    print('given triangle is isoceles triangle')
elif side1 != side2 != side3:
    print('given triangle is scalene triangle')
```

```
enter the side of tringle 3
enter the side of tringle 4
enter the side of tringle 7

given triangle is scalene triangle
```

[23]:
```
#23. Develop a program to categorize a given person's BMI into underweight,
     normal, overweight, or obese usingelif statements.
bmi = float(input('enter a bmi of a person'))
if bmi<18.5:
    print ('underweight')
elif 18.5<=bmi<=24.9:
    print('normal')
elif 24.9<=bmi<=29.9:
    print('overweight')
elif bmi>=30.1:
    print('obesty')
```

```
enter a bmi of a person 19

normal
```

[25]:
```
#24. Create a program that determines whether a given number is
     positive,negative, or zero using elifstatements.
```

```python
num = int(input('enter a number'))
if num<=0:
    print(' the number is negative ')
elif num>=0:
    print('the number is positive')
elif num == 0:
    print('the number is zero')
```

enter a number 34

the number is positive

[ ]: *#25. Write a Python script to determine the type of a character␣*
     ↪(uppercase,lowercase, or special) using elifstatements

[18]:
```python
def string_test(s):
    d={"UPPER_CASE":0, "LOWER_CASE":0}
    for c in s:
        if c.isupper():
            d["UPPER_CASE"]+=1
        elif c.islower():
            d["LOWER_CASE"]+=1
        else:
            pass
        print ("Original String : ", s)
        print ("No. of Upper case characters : ", d["UPPER_CASE"])
        print ("No. of Lower case Characters : ", d["LOWER_CASE"])
string_test('The quick Brown Fox')
```

```
Original String :  The quick Brown Fox
No. of Upper case characters :  1
No. of Lower case Characters :  0
Original String :  The quick Brown Fox
No. of Upper case characters :  1
No. of Lower case Characters :  1
Original String :  The quick Brown Fox
No. of Upper case characters :  1
No. of Lower case Characters :  2
Original String :  The quick Brown Fox
No. of Upper case characters :  1
No. of Lower case Characters :  2
Original String :  The quick Brown Fox
No. of Upper case characters :  1
No. of Lower case Characters :  3
Original String :  The quick Brown Fox
No. of Upper case characters :  1
No. of Lower case Characters :  4
```

```
Original String :   The quick Brown Fox
No. of Upper case characters :   1
No. of Lower case Characters :   5
Original String :   The quick Brown Fox
No. of Upper case characters :   1
No. of Lower case Characters :   6
Original String :   The quick Brown Fox
No. of Upper case characters :   1
No. of Lower case Characters :   7
Original String :   The quick Brown Fox
No. of Upper case characters :   1
No. of Lower case Characters :   7
Original String :   The quick Brown Fox
No. of Upper case characters :   2
No. of Lower case Characters :   7
Original String :   The quick Brown Fox
No. of Upper case characters :   2
No. of Lower case Characters :   8
Original String :   The quick Brown Fox
No. of Upper case characters :   2
No. of Lower case Characters :   9
Original String :   The quick Brown Fox
No. of Upper case characters :   2
No. of Lower case Characters :   10
Original String :   The quick Brown Fox
No. of Upper case characters :   2
No. of Lower case Characters :   11
Original String :   The quick Brown Fox
No. of Upper case characters :   2
No. of Lower case Characters :   11
Original String :   The quick Brown Fox
No. of Upper case characters :   3
No. of Lower case Characters :   11
Original String :   The quick Brown Fox
No. of Upper case characters :   3
No. of Lower case Characters :   12
Original String :   The quick Brown Fox
No. of Upper case characters :   3
No. of Lower case Characters :   13
```

[39]:
```python
#26. Implement a program to calculate the discounted price based on different
 ↪purchase amounts using elifstatements.
amount = int(input(' enter an amount'))
if amount >= 500:
    print('you won discounted price of 40 rupees')
elif 400<=amount<=500:
    print('you won discounted price of 10 rupees')
```

```
elif 100<=amount<=400:
    print('you won discounted price of 5 rupees')
elif 5<= amount<=400:
    print('you won discounted price of 2 rupees')
```

enter an amount 5

you won discounted price of 2 rupees

[41]:
```
#27. Develop a program to calculate the electricity bill based on␣
 ↪different␣consumption slabs using elifstatements.
unit = int(input("Enter your unit: "))
if unit <= 100:
    bill = unit * 3.46
elif unit >= 101 and unit <= 300:
    bill = 346 + ((unit - 100) * 7.43)
elif unit >= 301 and unit <= 500:
    bill = 346 + 1486 + ((unit - 300) * 10.32)
else:
    bill = 346 + 1486 + 2064 + ((unit - 500) * 11.71)
    print("Bill Per Unit:",bill)
    bill = bill + (unit*1.45)
    print("Bill after adding Line rent:",bill)
    bill = bill + 100
    print("Bill after adding Meter rent:",bill)
    bill = bill + (bill*0.16)
    print("Total Bill after adding tax:",bill)
```

Enter your unit: 1

[42]:
```
#28. Create a program to determine the type of quadrilateral based on␣
 ↪its␣angles and sides using elif statements.
print("Input lengths of the triangle sides: ")
x = int(input("x: "))
y = int(input("y: "))
z = int(input("z: "))
if x == y == z:
    print("Equilateral triangle")
elif x==y or y==z or z==x:
    print("isosceles triangle")
else:
    print("Scalene triangle")
```

Input lengths of the triangle sides:

x: 3
y: 4
z: 5

12

Scalene triangle

```
[44]: month = input("Input the month (e.g. January, February etc.): ")
      day = int(input("Input the day: "))
      if month in ('January', 'February', 'March'):
          season = 'winter'
      elif month in ('April', 'May', 'June'):
          season = 'spring'
      elif month in ('July', 'August', 'September'):
          season = 'summer'
      else:
          season = 'autumn'
      if (month == 'March') and (day > 19):
          season = 'spring'
      elif (month == 'June') and (day > 20):
          season = 'summer'
      elif (month == 'September') and (day > 21):
          season = 'autumn'
      elif (month == 'December') and (day > 20):
          season = 'winter'
      print("Season is",season)
```

```
Input the month (e.g. January, February etc.):  march
Input the day:  8

Season is autumn
```

```
[46]: #30. Implement a program to determine the type of a year (leap or common)␣
      ↪and␣month (30 or 31 days) usingelif statements.
      month = 12
      year=2012
      if((month==2) and ((year%4==0) or ((year%100==0) and (year%400==0)))) :
          print("Number of days is 29");
      elif(month==2) :
          print("Number of days is 28");
      elif(month==1 or month==3 or month==5 or month==7 or month==8 or month==10 or␣
      ↪month==12) :
          print("Number of days is 31");
      else :
          print("Number of days is 30");
```

```
Number of days is 31
```

```
[47]: #1. Write a Python program that checks if a given number is positive,␣
      ↪negative,or zero.
      num = float(input("Enter a number: "))
      if num > 0:
          print("Positive number")
```

```
elif num == 0:
    print("Zero")
else:
    print("Negative number")
```

Enter a number: 34

Positive number

```
[48]: #2. Create a program to determine if a person is eligible to vote based␣
      ↪on␣their age.
      age = int(input("Enter age : "))
      if age >= 18:
          print("Eligible for Voting!")
      else:
          print("Not Eligible for Voting!")
```

Enter age : 34

Eligible for Voting!

```
[50]: #3. Write a program to find the maximum of two given numbers using␣
      ↪conditional␣statements.
      def maximum(a, b):
          if a >= b:
              return a
          else:
              return b
      # Driver code
      a = 2
      b = 4
      print(maximum(a, b))
```

4

```
[51]: #4. Develop a program that calculates the grade of a student based on␣
      ↪their␣exam score.
      print("Enter Marks Obtained in 5 Subjects: ")
      total1 = 44
      total2 = 67
      total3 = 76
      total4 = 99
      total5 = 58
      tot = total1 + total2 + total3 + total4 + total4
      avg = tot / 5
      if avg >= 91 and avg <= 100:
          print("Your Grade is A1")
      elif avg >= 81 and avg < 91:
```

```
        print("Your Grade is A2")
    elif avg >= 71 and avg < 81:
        print("Your Grade is B1")
    elif avg >= 61 and avg < 71:
        print("Your Grade is B2")
    elif avg >= 51 and avg < 61:
        print("Your Grade is C1")
    elif avg >= 41 and avg < 51:
        print("Your Grade is C2")
    elif avg >= 33 and avg < 41:
        print("Your Grade is D")
    elif avg >= 21 and avg < 33:
        print("Your Grade is E1")
    elif avg >= 0 and avg < 21:
        print("Your Grade is E2")
    else:
        print("Invalid Input!")
```

```
Enter Marks Obtained in 5 Subjects:
Your Grade is B1
```

[53]:
```python
#5. Create a program that checks if a year is a leap year or not.
year = 2000
# To get year (integer input) from the user
# year = int(input("Enter a year: "))
# divided by 100 means century year (ending with 00)
# century year divided by 400 is leap year
if (year % 400 == 0) and (year % 100 == 0):
    print("{0} is a leap year".format(year))
# not divided by 100 means not a century year
# year divided by 4 is a leap year
elif (year % 4 ==0) and (year % 100 != 0):
    print("{0} is a leap year".format(year))
# if not divided by both 400 (century year) and 4 (not century year)
# year is not leap year
else:
    print("{0} is not a leap year".format(year))
```

```
2000 is a leap year
```

[54]:
```python
#6. Write a program to classify a triangle based on its sides' lengths.
side1 = int(input('enter the side of tringle'))
side2 = int(input('enter the side of tringle'))
side3 = int(input('enter the side of tringle'))
if side1 == side2 == side3:
    print('given triangle is equilateral triangle')
elif side1 == side2 != side3:
```

```
        print('given triangle is isoceles triangle')
    elif side1 != side2 != side3:
        print('given triangle is scalene triangle')
```

```
enter the side of tringle 3
enter the side of tringle 4
enter the side of tringle 5

given triangle is scalene triangle
```

[56]:
```python
#7. Build a program that determines the largest of three given numbers.
num1=10
num2=20
num3=30
if (num1>=num2) and (num1>=num3):
    largest=num1
    print("largest number is",largest)
elif (num2>=num1) and (num2>=num3):
    largest=num2
    print("largest number is",largest)
else:
    largest=num3
    print("largest number is",largest)
```

```
largest number is 30
```

[57]:
```python
#8. Develop a program that checks whether a character is a vowel or a consonant.
c = input('enter an character')
# checking for vowels
if c == 'a' or c == 'e' or c == 'i' or c == 'o' or c == 'u' or c == 'A' or c␣
 ↪=='E' or c == 'I' or c == 'O' or c == 'U':
    print(c, "is a vowel") # condition true input is vowel
else:
    print(c, "is a consonant") # condition true input is consona
```

```
enter an character kalka

kalka is a consonant
```

[58]:
```python
#9. Create a program to calculate the total cost of a shopping cart based␣
 ↪on␣discounts.
print( "How many drinks do you want?" )
drinks = input( "Enter number: ")
total = int(drinks)
single = 2.25
six = 10
single * 6 == six
if total > 20:
```

```
    total * 0.75
    print( "That will be a total of: ", total, "rupees")
```

How many drinks do you want?

Enter number: 67

That will be a total of: 67 rupees

[59]:
```
#10. Write a program that checks if a given number is even or odd.
num = int(input('enter an given number'))
if num%2 == 0:
    print('given number is even number')
else:
    print('given number is odd number')
```

enter an given number 56

given number is even number

[60]:
```
#11. Write a program that calculates the roots of a quadratic equation .
from math import sqrt
print("Quadratic function : (a * x^2) + b*x + c")
a = float(input("Enter the a Number :"))
b = float(input("Enter the b Number :"))
c = float(input("Enter the c Number :"))
r = b**2 - 4*a*c
if( r > 0):
    num_roots = 2
    x1 = (((-b) + sqrt(r))/(2*a))
    x2 = (((-b) - sqrt(r))/(2*a))
    print("There are Two Roots: ",x1, "and",x2)
elif(r == 0):
    num_roots = 1
    x = (-b) / 2*a
    print("There is one Root: ", x)
else:
    num_roots = 0
    print("No roots")
exit()
```

Quadratic function : (a * x^2) + b*x + c

Enter the a Number : 34
Enter the b Number : 5
Enter the c Number : 6

No roots

17

```python
[2]: num = int(input('enter a number'))
     if num == 1:
         print('monday')
     elif num == 2:
         print('tuesday')
     elif num == 3:
         print('wednesday')
     elif num == 4:
         print('thursday')
     elif num == 5:
         print('friday')
     elif num == 6:
         print('saturday')
     elif num == 7:
         print('sunday')
```

enter a number 4

thursday

```python
[7]: #13. Develop a program that calculates the factorial of a given number
     ↪using␣recursion.
     def factorial(n):
         if n == 0:
             return 1
         else:
             return n * factorial(n - 1)
             num = 5
             print("Factorial of", num, "is", factorial(num))
```

```python
[8]: factorial(6)
```

[8]: 720

```python
[1]: # #14. Write a program to find the largest among three numbers without using
     ↪the `max()` function.
     num1=10
     num2=20
     num3=30
     if (num1>=num2) and (num1>=num3):
         maximum=num1
         print("maximum number is",maximum)
     elif (num2>=num1) and (num2>=num3):
         maximum=num2
         print("maximum number is",maximum)
     else:
         maximum=num3
         print("maximum number is",maximum)
```

maximum number is 30

```python
[31]: def atm_operation():
          balance = 10000
          pin = 1234
          user_pin = int(input("Please enter your 4-digit pin: "))
          if user_pin == pin:
              print("Welcome to the ATM!")
              print("1. Check balance")
              print("2. Withdraw cash")
              print("3. Deposit cash")
              print("4. Exit")
              option = int(input("Please choose an option: "))
              if option in [1, 2, 3, 4]:
                  if option == 1:
                      print(f"Your balance is {balance} rupees.")
                  elif option == 2:
                      amount = int(input("Please enter the amount to withdraw: "))
                      if amount > 0 and amount <= balance:
                          balance -= amount
                          print(f"Please collect your cash of {amount} rupees.")
                          print(f"Your new balance is {balance} rupees.")
                      else:
                          print("Invalid amount. Please try again.")
                  elif option == 3:
                      amount = int(input("Please enter the amount to deposit: "))
                      if amount > 0:
                          balance += amount
                          print(f"You have deposited {amount} rupees.")
                          print(f"Your new balance is {balance} rupees.")
                  else:
                      print("Thank you for using the ATM. Have a nice day!")
              else:
                  print("Invalid option. Please try again.")
          else:
              print("Wrong pin. Please try again.")
      atm_operation()
```

```
Please enter your 4-digit pin:  1234

Welcome to the ATM!
1. Check balance
2. Withdraw cash
3. Deposit cash
4. Exit

Please choose an option:  2
Please enter the amount to withdraw:  2000
```

```
Please collect your cash of 2000 rupees.
Your new balance is 8000 rupees.
```

[5]:
```python
#17. Write a program that calculates the average of a list of numbers,excluding
 ↪the smallest and largest values.
# Python program to get average of a list
def Average(lst):
    return sum(lst) / len(lst)
# Driver Code
lst = [1,2,3,4]
average = Average(lst)
# Printing average of the list
print("Average of the list =", round(average, 2))
```

```
Average of the list = 2.5
```

[6]:
```python
#18. Develop a program that converts a given temperature from Celsius
 ↪toFahrenheit.
celcius = float(input('enter the value of temperature in celcius:'))
f = (celcius*1.8)+32
celcius
```

```
enter the value of temperature in celcius: 45
```

[6]: 45.0

[9]:
```python
6##### 19. Create a program that simulates a basic calculator for
 ↪addition,subtraction, multiplication, and division.
first = input("enter first number :")
operator = input("enter operator (+,-,*,/,%) : ")
second = input("enter second number :")
first = int(first)
second = int(second)
if operator == "+":
    print(first+second)
elif operator == "-":
    print(first-second)
elif operator == "*":
    print(first*second)
elif operator == "/":
    print(first/second)
elif operator == "%":
    print(first%second)
else:
    print("invalid operation")
```

```
enter first number : 2
enter operator (+,-,*,/,%) :  3
```

```
enter second number : 4

invalid operation
```

[ ]: