Python Programming - 2301CS404

Lab - 11

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Modules

01) WAP to create Calculator module which defines functions like add, sub,mul and div.

Create another .py file that uses the functions available in Calculator module.

In [1]:
```
import calc

x=int(input("enter x : "))
y=int(input("enter y : "))

print(f"{x} + {y} = {calc.add(x, y)}")
print(f"{x} - {y} = {calc.sub(x, y)}")
print(f"{x} * {y} = {calc.mul(x, y)}")
print(f"{x} / {y} = {calc.div(x, y)}")
```

```
2 + 4 = 6
2 - 4 = -2
2 * 4 = 8
2 / 4 = 0.5
```

02) WAP to pick a random character from a given String.

In [13]:
```
import random

my_string = "Hello,World!"

random_character = random.choice(my_string)

print(random_character)
```

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03) WAP to pick a random element from a given list.

In [31]:
```
import random

my_list=[1,2,3,4,5,6,7,8,9,11,12,45]

random_element = random.choice(my_list)

print(random_element)
```

9

04) WAP to roll a dice in such a way that every time you get the same number.

In [35]:
```
import random
dice_roll = random.randint(1, 6)

random.seed(2)
print(random.randint(1, 6))


random.seed(2)
print(random.randint(1, 6))

random.seed(2)
print(random.randint(1, 6))
```

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05) WAP to generate 3 random integers between 100 and 999 which is divisible by 5.

In [57]:
```
import random

divisible_by_5 = [num for num in range(100, 999) if num % 5 == 0]


random_integers = random.sample(divisible_by_5,k= 3)

print(random_integers)
```

[505, 585, 640]

06) WAP to generate 100 random lottery tickets and pick two lucky tickets from it and announce them as Winner and Runner up respectively.

In [74]:
```
import random
ticket=random.sample(range(100,999),100)
print(ticket)
for i in range(1,3):
    r=random.choice(ticket)
    print('your winner',r)
```

```
[674, 337, 635, 384, 162, 214, 993, 791, 938, 906, 488, 977, 473, 318, 426, 464,
179, 442, 568, 471, 270, 609, 552, 398, 572, 237, 835, 976, 754, 321, 379, 434, 2
62, 201, 343, 580, 294, 870, 794, 482, 289, 983, 243, 914, 238, 338, 375, 927, 66
3, 748, 487, 509, 951, 943, 867, 450, 387, 837, 709, 614, 694, 806, 849, 428, 86
0, 947, 869, 830, 821, 747, 871, 833, 975, 644, 737, 752, 786, 174, 476, 415, 50
4, 595, 278, 364, 462, 551, 588, 189, 290, 422, 988, 230, 128, 206, 459, 271, 46
7, 178, 936, 879]
your winner 364
your winner 450
```

07) WAP to print current date and time in Python.

In [59]:
```
from datetime import datetime
datetime.now()
```

Out[59]:
```
datetime.datetime(2025, 2, 21, 10, 55, 37, 871946)
```

08) Subtract a week (7 days) from a given date in Python.

In [78]:
```
from datetime import datetime, timedelta

given_date = datetime(2025, 2, 21)
new_date = given_date - timedelta(days=7)
print("New Date after subtracting a week:", new_date)
```

```
New Date after subtracting a week: 2025-02-14 00:00:00
```

09) WAP to Calculate number of days between two given dates.

In [90]:
```
from datetime import datetime

date1 = datetime(2025, 2, 21)
date2 = datetime(2025, 3, 31)

difference = date2 - date1
print("Number of days between dates:", difference.days)
```

```
Number of days between dates: 38
```

10) WAP to Find the day of the week of a given date.(i.e. wether it is sunday/monday/tuesday/etc.)

In [94]:
```
from datetime import datetime

given_date = datetime(2025, 2, 21)
day_of_week = given_date.strftime("%A")
print("Day of the week:", day_of_week)
```

```
Day of the week: Friday
```

11) WAP to demonstrate the use of date time module.

In [98]:
```
from datetime import datetime

now = datetime.now()
print("Current Date and Time:", now)

formatted_date = now.strftime("%Y-%m-%d %H:%M:%S")
print("Formatted Date and Time:", formatted_date)
```

```
Current Date and Time: 2025-02-21 11:20:28.752426
Formatted Date and Time: 2025-02-21 11:20:28
```

12) WAP to demonstrate the use of the math module.

In [96]:
```
import math

print("Pi:", math.pi)
print("Square Root of 16:", math.sqrt(16))
print("Factorial of 5:", math.factorial(5))
print("Cosine of 0 degrees:", math.cos(0))
```

```
Pi: 3.141592653589793
Square Root of 16: 4.0
Factorial of 5: 120
Cosine of 0 degrees: 1.0
```