

Python Programming - 2101CS405

Lab - 10

Modules

A

01) WAP to create Calculator module which defines functions like add, sub,mul and div. create another file that uses the Calculator module.

```
In [1]: import Calculator as cl
```

```
30
```

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

```
In [38]: import random
```

```
Enter a string: HelloWorld
Original string: HelloWorld
Random character: l
```

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

```
In [8]: import random
```

```
[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
5
```

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

```
In [1]: import math
```

```
Value of pi: 3.141592653589793
Value of e: 2.718281828459045
Square root of 10: 3.1622776601683795
Sine of 30 degrees: 0.49999999999999994
Cosine of 45 degrees: 0.7071067811865476
Tangent of 60 degrees: 1.7320508075688767
Floor of 2.5: 2
Ceiling of 3.2: 4
Factorial of 5: 120
Absolute value of -5: 5.0
2 raised to the power of 3: 8.0
Logarithm of 10 to the base 2: 3.3219280948873626
Natural logarithm of 10: 1.0
Hyperbolic sine of 1: 1.1752011936438014
Hyperbolic cosine of 1: 1.5430806348152437
Hyperbolic tangent of 1: 0.7615941559557649
Inverse hyperbolic sine of 1: 0.881373587019543
Inverse hyperbolic cosine of 1: 0.0
Inverse hyperbolic tangent of 0: 0.0
```

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

```
In [12]: import datetime
```

```
Current date and time: 2024-02-06 06:54:19.910711
Current date: 2024-02-06
Current time: 06:54:19.913553
Current year: 2024
Current month: 2
Current day: 6
Current hour: 6
Current minute: 54
Current second: 19
Current microsecond: 917847
Current timezone: UTC
Current timestamp: 1707202459.918025
Current UTC time: 2024-02-06 06:54:19.918086
Current time in a specific format: 2024-02-06 06:54:19
Current time in a specific timezone: 2024-02-06 12:24:19
Current time in a specific timezone using a specific format: Tue, 06 Feb 2024 12:24:19 UTC+05:30
```

B

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

```
In [19]: import random
```

Dice roll: 5
Dice roll: 2

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

```
In [23]: import random
```

780
575
135

03) WAP to generate 100 random lottery tickets and pick two lucky tickets from it as a winner.

```
In [25]: import random
```

Winning tickets (6 digit numbers only): [811862, 113885]

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

```
In [26]: import datetime
```

Current date and time: 2024-02-06 07:00:46.713131

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

```
In [27]: from datetime import datetime, timedelta
```

Current date: 2024-02-06 07:01:09.502095
Date one week ago: 2024-01-30 07:01:09.502095

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

```
In [32]: import datetime
```

2023-08-10 2024-08-15
Number of days between the two dates: 371

07) WAP to Find the day of the week of a given date.

```
In [35]: import datetime
```

On 2024-08-15 it was : Thursday