COURSE OUTCOME 2

DATE:16-10-2024

1. Program to find the factorial of a number?

PROGRAM

```
import math
a=int(input("Enter a number : "))
print("Factorial : ",math.factorial(a))
```

OUTPUT

```
Enter first numbers: 10
Factorial : 3628800
```

OUTPUT

```
Enter a number : 2
Factorial :  2
```

DATE:17-10-2024

2. Generate Fibonacci series of N terms?

PROGRAM

```
n = int(input("Enter the number of terms: "))
a, b = 0, 1
fibonacci_series = []
for i in range(n):
    fibonacci_series.append(a)
    a, b = b, a + b

print(f"Fibonacci series of {n} terms: {fibonacci_series}")
```

OUTPUT

```
Enter the number of terms: 6
Fibonacci series of 6 terms: [0, 1, 1, 2, 3, 5]
```

OUTPUT

```
Enter the number of terms: 4
Fibonacci series of 4 terms: [0, 1, 1, 2]
```

DATE:18-10-2024

3. Find the sum of all items in a list?

PROGRAM

```
l=[int(i) for i in input("Enter List : ").split()]
print("Sum : ",sum(l))
```

OUTPUT

```
Enter List : 9 7 4 3 1
Sum :  24
```

OUTPUT

```
Enter List : 2 7 6 5 4
Sum :  24
```

DATE:18-10-2024

4. Generate a list of four digit numbers in a given range with all their digits even and the number is a perfect square?

PROGRAM

```
start = int(input("Enter the starting digits : "))
end = int(input("Enter the ending digits : "))
for i in range(int(start ** 0.5), int(end ** 0.5) + 1):
    square = i * i
    if start <= square <= end:
        if all(int(digit) % 2 == 0 for digit in str(square)):
            print(square)
```

OUTPUT

```
Enter the starting digits4000
Enter the ending digits9999
4624
6084
6400
8464
```

OUTPUT

```
Enter the stating digits : 4500
Enter the ending digits : 6000
4624
```

DATE:21-10-2024

5. Display the given pyramid with step number accepted from user. Eg: N=4

1

2 4

3 6 9

4 8 12 16

PROGRAM

```
N = int(input("Enter the number of steps (N): "))

for i in range(1, N + 1):
    for j in range(1, i + 1):
        print(i * j, end=" ")
    print()
```

OUTPUT

```
Enter the number of steps (N): 4
1
2 4
3 6 9
4 8 12 16
```

OUTPUT

Enter the number of steps (N): 6

1

2 4

3 6 9

4 8 12 16

5 10 15 20 25

6 12 18 24 30 36

DATE:21-10-2024

6. Count the number of characters (character frequency) in a string?

PROGRAM

```
input_string = input("Enter a string: ")
char_frequency = {}
for char in input_string:
    if char in char_frequency:
        char_frequency[char] += 1
    else:
        char_frequency[char] = 1
for char, count in char_frequency.items():
    print(f"'{char}': {count}")
```

OUTPUT

```
Enter a string: hello world
'h': 1
'e': 1
'l': 3
'o': 2
' ': 1
'w': 1
'r': 1
'd': 1
```

OUTPUT

Enter a string: computer

'c': 1

'o': 1

'm': 1

'p': 1

'u': 1

't': 1

'e': 1

'r': 1

DATE:22-10-2024

7. Add ‘ing’ at the end of a given string. If it already ends with ‘ing’, then add ‘ly’?

PROGRAM

```
input_string = input("Enter a string: ")
if len(input_string) >= 3:
 if input_string.endswith("ing"):
result = input_string + "ly"
 else:
result = input_string + "ing"
else:
result = input_string
print("Modified string:", result)
```

OUTPUT

Enter a string: manufactur

manufacturing

OUTPUT

Enter a string: Accounting

Accountingly

DATE:23-10-2024

8. Accept a list of words and return length of longest word?

PROGRAM

```
words = input("Enter a list of words (separated by spaces): ").split()
longest_word = max(words, key=len)
print("Length of the longest word:", len(longest_word))
```

OUTPUT

```
Enter a list of words (separated by spaces): Kerala is Gods Own Country
Length of the longest word: 7
```

OUTPUT

```
Enter a list of words (separated by spaces): python programming
language
Length of the longest word: 11
```

DATE:24-10-2024

9. To print triangle star pattern

PROGRAM

```
n = 5
for i in range(1, n + 1):
    print('* ' * i)

for i in range(n - 1, 0, -1):
    print('* ' * i)
```

OUTPUT

```
*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*
```

DATE:25-10-2024

10. Generate all factors of a number?

PROGRAM

```
number = int(input("Enter a number: "))
factors = []

for i in range(1, number + 1):
    if number % i == 0:
        factors.append(i)

print("Factors of", number, "are:", factors)
```

OUTPUT

Enter a number: 77

Factors of 77 are: [1, 7, 11, 77]

OUTPUT

Enter a number: 20

Factors of 20 are: [1, 2, 4, 5, 10, 20]

DATE:25-10-2024

11. Write lambda functions to find area of square, rectangle and triangle?

PROGRAM

```
area_square = lambda side: side ** 2
area_rectangle = lambda length, width: length * width
area_triangle = lambda base, height: 0.5 * base * height

side = int(input("Enter the side : "))
length = int(input("Enter the length : "))
width = int(input("Enter the width : "))
base = int(input("Enter the base : "))
height = int(input("Enter the height : "))
print(f"Area of square: {area_square(side)}")
print(f"Area of rectangle: {area_rectangle(length, width)}")
print(f"Area of triangle: {area_triangle(base, height)}")
```

OUTPUT

```
Enter the side : 3
Enter the length : 8
Enter the width : 2
Enter the base : 1 9 6
Enter the height : 2
Area of square: 9
Area of rectangle: 16
Area of triangle: 6.0
```

OUTPUT

Enter the side : 6

Enter the length : 5

Enter the width : 8

Enter the base : 3

Enter the height : 5

Area of square: 36

Area of rectangle: 40

Area of triangle: 7.5