TASK -6

1. Python Program to Find LCM

PROGRAM

```python
# 1. Python Program to Find LCM
num1=int(input("enter number="))
num2=int(input("enter number="))
largest_num=max(num1,num2)
while(True):#product=num1*num2  while(product):
    if largest_num%num1==0 and largest_num%num2==0:
        lcm=largest_num
        break
    largest_num=largest_num+1
print(lcm)
```

OUTPUT

```
enter number=12
enter number=24
24
```

2. Python Program to Find HCF

PROGRAM

```python
# 2. Python Program to Find HCF
num1=12
num2=24
hcf=1
i=1
while(i<=num1):
    if(num1%i==0) and(num2%i==0):
        hcf=i
    i=i+1
print(f"hcf of {num1},{num2}={hcf}")
```

OUTPUT

```
hcf of 12,24=12
PS C:\Users\HP\Desktop\PYTHON FULLSTACK>
```

3. Python Program to Make a Simple Calculator

PROGRAM

```python
#  3. Python Program to Make a Simple Calculator
num1=int(input("enter num1="))
num2=int(input("enter num2="))
op=input("operator")
if op=="+":
    result=num1+num2
    print(f"result {num1} + {num2} = {result} ")
elif op=="-":
    result=num1-num2
    print(f"result{num1}-{num2}={result}")
elif op=="*":
    result=num1*num2
    print(f"result{num1}*{num2}={result}")
elif op=="/":
    result=num1/num2
    print(f"result{num1}/{num2}={result}")
else:
    print("enter valid operator")
```

OUTPUT

```
enter num1=6
enter num2=9
operator*
result6*9=54
```

4. Python Program to Find Factorial of Number Using Recursion

PROGRAM

```python
# 4. Python Program to Find Factorial of Number Using Recursion
def recur_factorial(n):
   if n == 1:
       return n
   else:
       return n*recur_factorial(n-1)
num = 5
if num < 0:
   print("Sorry, factorial does not exist for negative numbers")
elif num == 0:
   print("The factorial of 0 is 1")
else:
   print("The factorial of", num, "is", recur_factorial(num))
```

OUTPUT

```
The factorial of 5 is 120
```

5. Python program to check if the given number is a Disarium Number

PROGRAM

```python
# 5. Python program to check if the given number is a Disarium Number
def is_disarium(num):
    temp = 0
    for i in range(len(str(num))):
        temp += int(str(num)[i]) ** (i + 1)
    return temp == num
num=int(input("enter the number = "))
print("number is disarium ",is_disarium(num))
```

OUTPUT

```
enter the number = 25
number is disarium  False
PS C:\Users\HP\Desktop\PYTHON FULLSTACK> & C
p/PYTHON FULLSTACK/PYTHON CORE & ADVANCED/TA
enter the number = 89
number is disarium  True
```

6. Python program to determine whether the given number is a Harshad Number

PROGRAM

```python
num = int(input("enter the number = "))
rem = 0
sum = 0;
n = num;
while(num > 0):
    rem = num%10;
    sum = sum + rem;
    num = num//10;
if(n%sum == 0):
    print(str(n) + " is a harshad number");
else:
    print(str(n) + " is not a harshad number");
```

OUTPUT

```
enter the number156
156 is a harshad number
PS C:\Users\HP\Desktop\PYTHON FULLSTACK> &
p/PYTHON FULLSTACK/PYTHON CORE & ADVANCED/T
enter the number = 123
123 is not a harshad number
```

7. Python program to check the number of digits present in a integer

PROGRAM

```python
# 7. Python program to check the number of digits present in a integer
num = 3452
count = 0
while num != 0:
    num //= 10
    count += 1
print("Number of digits: " + str(count))
```

OUTPUT

```
Number of digits: 4
```

8. How to count the number of upper and lowercase letters in a string

PROGRAM

```python
# 8.How to count the number of upper and lowercase letters in a string
Str="LuMinar TechnoLab"
lower=0
upper=0
for i in Str:
    if(i.islower()):
            lower+=1
    else:
            upper+=1
print("The number of lowercase characters is:",lower)
print("The number of uppercase characters is:",upper)
```

OUTPUT

```
The number of lowercase characters is: 12
The number of uppercase characters is: 5
```

9. Write a program to count words in string

PROGRAM

```
# Write a program to count words in string
text="luminar technolab"
wc={ch:text.count(ch) for ch in set(text)}
print(wc)
print("length of the string", len(text))
```

OUTPUT

```
{'r': 1, 'a': 2, 'b': 1, 'h': 1, 'n': 2, 't': 1, 'e': 1, 'c': 1, 'u': 1, 'l': 2, ' ': 1, 'i': 1, 'm': 1, 'o': 1}
length of the string 17
```

10. Write the program to find the lists consist of at least one common element.

PROGRAM

```
# 10. Write the program to find the lists consist of at least one common element.
l1=[10,11,20,30,32]
l2=[15,16,20,30,31]
result=[]
for element in l1:
    if element in l2:
        result.append(element)
print("common element in the list 1 and list 2 are :-",result)
```

OUTPUT

```
common element in the list 1 and list 2 are :- [20, 30]
```

11. Python program to print the duplicate elements of an array

PROGRAM

```
# Python program to print the duplicate elements of an array
arr = [1, 2, 3, 4, 2, 7, 8, 8, 3];
print("array =", arr)
print("Duplicate elements in given array: ");
for i in range(0, len(arr)):
    for j in range(i+1, len(arr)):
        if(arr[i] == arr[j]):
            print(arr[j]);
```

OUTPUT

```
array = [1, 2, 3, 4, 2, 7, 8, 8, 3]
Duplicate elements in given array:
2
3
8
```

12. Python program to print the elements of an array present on even position

PROGRAM

```
# Python program to print the elements of an array present on even position
arr = [2,34,56,3,43,23,11,99];
print("elements of an array present on even position")
for i in range(1, len(arr), 2):
    print(arr[i]);
```

OUTPUT

```
elements of an array present on even position
34
3
23
99
```

13. Python program to print the elements of an array present on odd position

PROGRAM

```
# Python program to print the elements of an array present on odd position
arr = [2,34,56,3,43,23,11,99];
print("elements of an array present on odd position")
for i in range(0, len(arr), 2):
    print(arr[i])
```

OUTPUT

```
elements of an array present on odd position
2
56
43
11
```

14. Python program to print the largest element in an array

PROGRAM

```
# Python program to print the largest element in an array
arr=[25,77,56,99,1,11]
max=arr[0]
for i in range(len(arr)):
    if arr[i]>max:
        max=arr[i]
print("largest element in the array ", max)
```

OUTPUT

```
largest element in the array  99
```

15. Python program to print the smallest element in an array

PROGRAM

```python
# 15 Python program to print the smallest element in an array
arr=[25,77,56,99,18,11]
min=arr[0]
for i in range(len(arr)):
    if arr[i]<min:
        min=arr[i]
print("Smallest element in the array ", min)
```

OUTPUT

```
Smallest element in the array  11
```

16. Python program to print the number of elements present in an array

PROGRAM

```python
# 16 Python program to print the number of elements present in an array
numbers=[1,23,45,7,6,68,66,100]
print("number of elements present in an array", len(numbers))
```

OUTPUT

```
number of elements present in an array 8
```

17. Python program to print the sum of all elements in an array

PROGRAM

```python
# 17. Python program to print the sum of all elements in an array
arr = [1, 2, 3, 4, 5];
sum = 0;
for i in range(0, len(arr)):
    sum = sum + arr[i];
print("Sum of all the elements of an array: ",str (sum));
```

OUTPUT

```
Sum of all the elements of an array:  15
```

18. Python Program to Find Armstrong Number in an Interval

PROGRAM

```python
# 18. Python Program to Find Armstrong Number in an Interval
for num in range(1,401):
    order = len(str(num))
    sum = 0
    temp = num
    while temp > 0:
      digit = temp % 10
      sum += digit ** order
      temp //= 10
      if num == sum:
          print(num)
```

OUTPUT

```
1
2
3
4
5
6
25
36
125
153
216
370
371
```

19. Program to Check Armstrong Numbers in Python

PROGRAM

```python
# 19. Program to Check Armstrong Numbers in Python
num=input("enter number=")
digit_count=len(num)
num=int(num)
original=num
sum=0
while(num!=0):
    digit=num%10
    exp=digit**digit_count
    sum=sum+exp
    num=num//10
print(sum)
if(original==sum):
    print("number is armstrong")
else:
    print("number is not armstrong")
```

OUTPUT

```
enter number=143
92
number is not armstrong
PS C:\Users\HP\Desktop\PYTHON FULLSTACK> & C:/
p/PYTHON FULLSTACK/PYTHON CORE & ADVANCED/TASK
enter number=153
153
number is armstrong
```

20. Write a Python program to reverse a string.

PROGRAM

```python
# 20. Write a Python program to reverse a string.
text="luminar technolab"
print("orginal string :- " ,text)
print("reversed string" ,text[::-1])
```

OUTPUT

```
orginal string :-  luminar technolab
reversed string balonhcet ranimul
```

21. Write a Python program to check if a list is empty or not.

PROGRAM

```python
# 21. Write a Python program to check if a list is empty or not.
my_list = []
if not my_list:
    print("the list is empty")
else:
    print("the list not empty")
```

OUTPUT

```
the list is empty
```

22. Write a Python program to multiply all the items in a list.

PROGRAM

```python
# 22. Write a Python program to multiply all the items in a list.
def mul_list(list) :
    product = 1
    for i in list:
        product = product * i
    return product
my_list = [1,2,3,4,5]
print("my list is :- " ,my_list)
print("product of alist is :- " ,mul_list(my_list))
```

OUTPUT

```
my list is :-  [1, 2, 3, 4, 5]
product of alist is :-  120
```

23. Write a Python program to clone or copy a list.

PROGRAM

```python
# 23. Write a Python program to clone or copy a list.
box1=["yellow","white","green","red"]
box2=box1.copy()
print("box1 :- " ,box1)
print("box2 :-" ,box2)
```

OUTPUT

```
box1 :-  ['yellow', 'white', 'green', 'red']
box2 :- ['yellow', 'white', 'green', 'red']
```

24. Write a Python program to print the numbers of a specified list after removing even numbers from it.

PROGRAM

```python
#24 Write a Python program to print the numbers of a specified list after removing even numbers from it.
num = [1,2,3,4,5,6,7,8,9,10,11,12,13,14]
print("list :- " , num)
num1 = [x for x in num if x % 2 != 0]
print("after removing even numbers:- " ,num1)
```

OUTPUT

```
list :-  [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14]
after removing even numbers:-  [1, 3, 5, 7, 9, 11, 13]
```

25. Write a Python program to shuffle and print a specified list.

PROGRAM

```python
# 25. Write a Python program to shuffle and print a specified list.
from random import shuffle
list = [1,2,3,4,5,]
print("orginal list :- ",list)
shuffle(list)
print("shuffled list :- " , list)
```

OUTPUT

```
orginal list :-  [1, 2, 3, 4, 5]
shuffled list :-  [3, 2, 1, 5, 4]
```

26. Write a Python program to create a list with infinite elements.

PROGRAM

```python
# 26. Write a Python program to create a list with infinite elements.
a=0
L=[]
while True :
    a+=1
    L.append(a)
    print(L)
```

OUTPUT

```
, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481,
2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 25
03, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522
, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542,
2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 25
64, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583
, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603,
2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 26
25, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644
, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664,
2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 2681, 2682, 2683, 2684, 26
86, 2687, 2688, 2689, 2690, 2691, 2692, 2693, 2694, 2695, 2696, 2697, 2698, 2699, 2700, 2701, 2702, 2703, 2704, 2705
, 2707, 2708, 2709, 2710, 2711, 2712, 2713, 2714, 2715, 2716, 2717, 2718, 2719, 2720, 2721, 2722, 2723, 2724, 2725,
2727, 2728, 2729, 2730, 2731, 2732, 2733, 2734, 2735, 2736, 2737, 2738, 2739, 2740, 2741, 2742, 2743, 2744, 2745, 27
47, 2748, 2749, 2750, 2751, 2752, 2753, 2754, 2755, 2756, 2757, 2758, 2759, 2760, 2761, 2762, 2763, 2764, 2765, 2766
, 2768, 2769, 2770, 2771, 2772, 2773, 2774, 2775, 2776, 2777, 2778, 2779, 2780, 2781, 2782, 2783, 2784, 2785, 2786,
2788, 2789, 2790, 2791, 2792, 2793, 2794, 2795, 2796, 2797, 2798, 2799, 2800, 2801, 2802, 2803, 2804, 2805, 2806, 28
```

27. Write a Python program to check whether the n-th element exists in a given list.

PROGRAM

```python
# 27. Write a Python program to check whether the n-th element exists in a given list.
num=int(input("enter the number = "))
list = [1, 2, 3, 4, 5]
if num in list:
    print("Element found in the list")
else:
    print("Element not found in the list.")
```

OUTPUT

```
enter the number = 10
Element not found in the list.
PS C:\Users\HP\Desktop\PYTHON FULLSTACK> & C:/Users
p/PYTHON FULLSTACK/PYTHON CORE & ADVANCED/TASK 6/q2
enter the number = 4
Element found in the list
```

28. Write a Python function to find the maximum of three numbers.

PROGRAM

```python
# 28. Write a Python function to find the maximum of three numbers.
def find_max(a, b, c):
    if (a >= b) and (a >= c):
        return a
    elif (b >= a) and (b >= c):
        return b
    else:
        return c
print("maximum of three number is in 10,2,30:-" ,find_max(10,2,30))
```

OUTPUT

```
maximum of three number is in 10,2,30:- 30
```

29. Write a Python function that accepts a string and counts the number of upper- and lower-case letters.

PROGRAM

```python
# 29. Write a Python function that accepts a string and counts the number of upper- and lower-case letters
def lowerupper(string):
    upper=0
    lower=0
    for ch in string:
        if ch.islower():
            lower+=1
        else:
            upper+=1
    return lower,upper
string="Luminar TEchnolab"
l,u=lowerupper(string)
print("string :- ",string)
print("lowercase letters count :- ",l)
print("uppercase letters count :- " ,u)
```

OUTPUT

```
string :-  Luminar TEchnolab
lowercase letters count :-  13
uppercase letters count :-  4
```

30. Write a Python program to reverse the order of the items in the array.

PROGRAM

```python
# 30. Write a Python program to reverse the order of the items in the array.
arr = [1, 2, 3, 4, 5];
print("Original array: ");
for i in range(0, len(arr)):
    print(arr[i]),
print("Array in reverse order: ");
for i in range(len(arr)-1, -1, -1):
    print(arr[i]),
```

OUTPUT

```
Original array:
1
2
3
4
5
Array in reverse order:
5
4
3
2
1
```