**DAY-1**

**DATE:05-10-2024**

**1.#first palindrome in array**

**A=["siri","lahari","madam","aka"]**

**result=[]**

**for i in A:**

**if(i==i[::-1]):**

**result=i**

**break**

**print(result)**

**2.#number which are presented in list1 are in list2**

**n1=[4, 3, 2, 3, 1]**

**n2=[2, 2, 5, 2, 3, 6]**

**ans1=sum(i in n2 for i in n1)**

**ans2=sum(i in n1 for i in n2)**

**print(ans1,ans2)**

**3.# square sum of the distinct values in nums[i..j]**

**n1 = [1, 2, 1,8]**

**sum= 0**

**for i in range(len(n1)):**

**distinct = set()**

**for j in range(i, len(n1)):**

**distinct.add(n1[j])**

**sum += len(distinct) \*\* 2**

**print(sum)**

**5.#Write a program FOR THE BELOW TEST CASES with least time complexity**

**n = [{1, 2, 3, 4, 5}, {7, 7, 7, 7, 7}, {-10, 2, 3, -4, 5}]**

**for i in n:**

**print(max(i))**

**4.#how many no.of pairs in a list where 0<=i<j<n,n1[i]=n1[j],i\*j%k**

**nums = [3,1,2,2,2,1,3]**

**k = 2**

**count = 0**

**for i in range(len(nums)):**

**for j in range(i + 1, len(nums)):**

**if nums[i] == nums[j] and (i \* j) % k == 0:**

**count += 1**

**print(count)**

**6.#write a program for sorting try test cases Input: [],Input: [5],Input: [3, 3, 3, 3, 3]**

**#case3**

**n = [3,3,3,3,3,3]**

**s= sorted(n)**

**maxe = s[-1]**

**print( s)**

**print( maxe)**

**#case1**

**n = []**

**s= sorted(n)**

**maxe = s[-1]**

**print( s)**

**print( maxe)**

**#csae2**

**n = [5]**

**s= sorted(n)**

**maxe = s[-1]**

**print( s)**

**print( maxe)**

**7.remove duplicate from the list**

**list1 = [1, 2, 2, 3, 4, 4, 5]**

**list2= []**

**for i in list1:**

**if i not in list2:**

**list2.append(i)**

**print(list2)**

**8.bubble sort**

**a= [64, 34, 25, 12, 22, 11, 90]**

**n = len(a)**

**for i in range(n):**

**for j in range(0, n-i-1):**

**if a[j] > a[j+1]:**

**a[j], a[j+1] = a[j+1], a[j]**

**print(a)**

**9.search a number by using binary search**

**a= [1, 2, 3, 4, 5]**

**x = 3**

**l, r = 0, len(a) - 1**

**while l <= r:**

**m = (l + r) // 2**

**if a[m] == x:**

**print("Found")**

**break**

**elif a[m] < x:**

**l = m + 1**

**else:**

**r = m - 1**

**else:**

**print("Not Found")**

**10.asending order without using built-in-function**

**a = [5, 2, 9, 1, 5, 6]**

**n = len(a)**

**for i in range(n):**

**for j in range(0, n-i-1):**

**if a[j] > a[j+1]:**

**a[j], a[j+1] = a[j+1],a[j]**

**print(a)**