

1) Python Program to count all the unique elements in an array?

```
import array
A=array.array('i',[])
B=array.array('i',[])
print("Enter the number of elements in the array A")
n=int(input())
print("Enter the elements of array A")
for i in range(1,n+1):
    A.append(int(input()))
    B.append(0)

for i in range(1,n+1):
    for j in range(i+1,n+1):
        if (A[i-1]==A[j-1]):
            B[j-1]=1

for i in range(1,n+1):
    if (B[i-1]==0):
        print("Element",A[i-1],"occured",A.count(A[i-1]),"times", "in array A")
```

2) Adding n arrays?

```
print("Enter the number of lists")
n=int(input())

print("Enter the number of elements in each list")
m=int(input())

a_list=[0 for i in range(m)]
for i in range(1,n+1):
    print("Enter the elements of", i,"th list")
    for index in range(1,m+1):
        integer=int(input())
        a_list[index-1] += integer

print(a_list)
```

3) Printing the array in a given permutation order?

```

print ("Enter the number of elements in a list")
m = int(input ())
a_list =[0 for i in range (m)]
permutation_list =[0 for i in range (m)]
print ("Enter the list to be permuted")
for index in range (1, m + 1):
    integer = int (input ())
    a_list[index - 1] = integer

print ("Enter the permutation matrix")
for index in range (1, m + 1):
    integer = int (input ())
    permutation_list[index - 1] = integer

print ("The permuted List")
for index in range (1, m + 1):
    print(a_list[permutation_list[index - 1]])

```

- 4) Swap the min and maximum element in an integer array?

```

print ("Enter the number of elements in a list")
m = int(input ())
a_list =[0 for i in range (m)]
b_list =[0 for i in range (m)]
print ("Enter the list")
for index in range (1, m + 1):
    integer = int (input ())
    a_list[index - 1] = integer
    b_list[index - 1] = integer
a_list.sort()

for index in range (1, m + 1):
    if(a_list[0]==b_list[index-1]):
        min_index=index-1
        break

for index in range (1, m + 1):
    if(a_list[m-1]==b_list[index-1]):
        max_index=index-1

```

```
break
```

```
flag=b_list[min_index]  
b_list[min_index]=b_list[max_index]  
b_list[max_index]=flag
```

```
print("The swaped list",b_list)
```

- 5) Find out the third largest element in an array?

```
print ("Enter the number of elements in a list")  
m = int(input ())  
a_list =[0 for i in range (m)]  
print ("Enter the list")  
for index in range (1, m + 1):  
    integer = int (input ())  
    a_list[index - 1] = integer  
a_list.sort()  
  
print("The third largest element in the list is",a_list[-3])
```

- 6) Count the number of prime numbers in a given array?

```
print("Enter the number of elements in the list")  
m= int(input())  
a_list =[0 for i in range (m)]  
print("Enter a list which contains elemnts >1")  
for index in range (1, m + 1):  
    integer = int (input ())  
    a_list[index - 1] = integer  
count =0  
  
for index in range (1, m + 1):  
    flag=1  
    for i in range(2, a_list[index - 1]):  
        if (a_list[index - 1] % i) == 0:  
            flag=0  
            break  
    if(flag==1):
```

```
count =count+1
```

```
print("prime number count is", count)
```

- 7) Write a program to check how many Armstrong numbers are there in the given List?

```
print("Enter the number of elements in the list")
```

```
m= int(input())
```

```
a_list =[0 for i in range (m)]
```

```
print("Enter a list which contains elements")
```

```
for index in range (1, m + 1):
```

```
    integer = int (input ())
```

```
    a_list[index - 1] = integer
```

```
count =0
```

```
for index in range (1, m + 1):
```

```
    sum = 0
```

```
    temp = a_list[index - 1]
```

```
    while temp > 0:
```

```
        digit = temp % 10
```

```
        sum += digit ** 3
```

```
        temp //= 10
```

```
    if a_list[index - 1] == sum:
```

```
        count =count+1
```

```
print("Armstrong number count is", count)
```

- 8) Write a program to check how many words are there in the given heterogeneous List?

```
print("Enter the number of elements in the list")
```

```
m= int(input())
```

```
a_list =[]
```

```
print("Enter a list which contains elements")
```

```
for index in range (1, m + 1):
```

```
    value = input ()
```

```
    a_list.append(value)
```

```
count =0
```

```

for index in range (1, m + 1):
    if(a_list[index-1].isalpha()):
        count=count+1

print("The number of words in the list", count)

```

- 9) Write a program to check how many palindrome strings are there in the given heterogeneous List?

```

print("Enter the number of elements in the list")
m= int(input())
a_list =[]
print("Enter a list which contains elements")
for index in range (1, m + 1):
    value = input ()
    a_list.append(value)
count =0

for index in range (1, m + 1):
    if(a_list[index-1]==a_list[index-1][::-1]):
        count=count+1

print("The number of strings in the list",count)

```