PROGRAM: Programs on array and String

Code:

```
import array as arr


print("Code to read and display the array elements")
n=int(input("Enter the number of elements: "))
a=arr.array('i',[])
for index in range(0,n):
   x=int(input(f"Enter the element {index+1} : "))
   a.append(x)
print("The elements in  the array are:")
for index in range(0,n):
   print(a[index])


print("Code to append a new item to end of array")
print(f"Existing array size: {len(a)}")
new_elem=int(input("Enter a new elment "))
a.append(new_elem)
print(f"Array after adding a new item to end  comes of size {len(a)}")
for i in range(len(a)):
   print(a[i])


print("Reversing the array elements using Slice Operator:")
print(a[::-1])


print("Code to get length in bytes of one array item")
print(f"length in bytes of one array item: {str(a.itemsize)}")


print("Code to append items from another array")
b=arr.array('i',[60,70,80,90,100])
print("The  array elements that will be added to array a:")
```

```
for i in range(0,len(b)):
    print(b[i])
for index in range(len(b)):
    a.append(b[index])
print("After appending other array elements:")
for i in range(0,len(a)):
    print(a[i])

print("Code to remove some element from the array: ")
remove_index=int(input("Enter the index from which element is to be removed :"))
a.pop(remove_index)
print("Array elements after removal:")
for i in range(0,len(a)):
    print(a[i])

print("Code to add an element at some index")
add_index=int(input("Enter the index at which element is to be added :"))
new_elem=int(input("Enter the element :"))
a.insert(add_index,new_elem)
print("Array after adding new element")
for i in range(0,len(a)):
    print(a[i])

print("Code to convert array to string")
arrTostr = ' '.join([str(elem) for elem in a])
print(f"The converted string :{arrTostr}")
```

Output:

```
Code to read and display the array elements
Enter the number of elements: 5
```

Enter the element 1 : 11

Enter the element 2 : 2

Enter the element 3 : 33

Enter the element 4 : 4

Enter the element 5 : 55

The elements in the array are:

11

2

33

4

55

Code to append a new item to end of array

Existing array size: 5

Enter a new elment 6

Array after adding a new item to end comes of size 6

11

2

33

4

55

6

Reversing the array elements using Slice Operator:

array('i', [6, 55, 4, 33, 2, 11])

Code to get length in bytes of one array item

length in bytes of one array item: 4

Code to append items from another array

The array elements that will be added to array a:

60

70

80

90

100

After appending other array elements:

11

2

33

4

55

6

60

70

80

90

100

Code to remove some element from the array:

Enter the index from which element is to be removed :3

Array elements after removal:

11

2

33

55

6

60

70

80

90

100

Code to add an element at some index

Enter the index at which element is to be added :3

Enter the element :44

Array after adding new element

11

2

33

44

55

6

60

70

80

90

100

Code to convert array to string

The converted string :11 2 33 44 55 6 60 70 80 90 100

PROGRAM: Program to remove prime numbers from array

Code:

```
import array as arr
print("Python program to remove prime numbers from an array")
n=int(input("Enter the number of elements "))
a=arr.array('i',[])
b=arr.array('i',[])
for index in range(0,n):
   x=int(input(f"Enter the element {index+1} : "))
   a.append(x)

print("The elements in  the array are:")
for index in range(0,n):
   print(a[index],end=' ')

flag=False
for index in range(0,n):
   for j in range(2,a[index]):
```

```
        if (a[index]%j==0):
            b.append(a[index])
            break
print("\n The elements in the array after removing prime no. are:")
for index in range(0,len(b)):
    print(b[index],end=' ')
```

Output:

```
Python program to remove prime numbers from an array
Enter the number of elements 7
Enter the element 1 : 33
Enter the element 2 : 1
Enter the element 3 : 55
Enter the element 4 : 7
Enter the element 5 : 5
Enter the element 6 : 3
Enter the element 7 : 90
The elements in  the array are:
33 1 55 7 5 3 90
 The elements in the array after removing prime no. are:
33 55 90
```

PROGRAM: Program to change all occurrences of a character except the first one with @

Code:

```
user_str=input("Enter a string: ")
print("The Original String is")
print(user_str)
firstchar=user_str[0]
new_char='@'
length=len(user_str)
if length > 1:
    user_str=user_str[0]+user_str[1:].replace(firstchar,new_char)
```

```
print("Resulted String:"+ user_str)
```

Output:

```
Enter a string: an apple a day keeps doctor away
The Original String is
an apple a day keeps doctor away
Resulted String:an @pple @ d@y keeps doctor @w@y
```

PROGRAM: To sort group of strings alphabetically and check if a string is palindrome or not

Code:

```
print("Sorting Strings")
user_str=(input("Enter a string: "))
listofwords=user_str.split()
listofwords.sort()
for word in listofwords :
   print(word,end=" ")

print("\nChecking Palindrome")
sentence=(input("Enter a word: "))
reverse_sentence=sentence[::-1]
if(sentence==reverse_sentence):
   print("It is a Palindrome")
else:
   print("It is not a Palindrome")
```

Output:

```
Sorting Strings
Enter a string: Dog Banana Apple Cat
Apple Banana Cat Dog
Checking Palindrome
Enter a word: madam
It is a Palindrome
```