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Subject : Python Programming Language

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Paper 204: Python Programming Language

Practical Sheet - 2

Q.1. Write a Python program to take input of non-zero numbers, with an appropriate prompt, from

the user until the user enters a zero. Find total number of numbers entered and their sum. Display

count and sum with appropriate titles.

```
numbers = []

while True:
    Number = int(input("Enter a positive Number (for exit enter zero(0)"))
    if Number < 0:
        print("Please Enter a positive Number")
    elif Number==0:
        break
    else:
        numbers.append(Number)
    print(numbers)

print("\n\nTotal Number Entered by user is : ",len(numbers))
print("Sum of the Number Entered by user is : ",sum(numbers))
```

Q.2. Write a Python program to take input of positive numbers, with an appropriate prompt, from the

user until the user enters a zero. Find total number of odd & even numbers entered and sum of odd and even numbers. Display total count of add & even numbers and sum of odd & even numbers with appropriate titles.

```
numbers = []
count_odd = 0
count_even = 0
sum_odd = 0;
sum_even = 0;
while True:
    Number = int(input("Enter a positive Number (for exit enter zero(0)"))
    if Number < 0:
        print("Please Enter a positive Number")
    elif Number==0:
        break
    else:
        numbers.append(Number)
    print(numbers)

for i in numbers:
    if i % 2 == 0:
        count_even += 1
        sum_even += i
    else:
        count_odd += 1
        sum_odd += i

print("\n\nTotal Number Entered by user is : ",len(numbers))
print("Sum of the Number Entered by user is : ",sum(numbers))
print("Number of even Number : ",count_even)
print("Number of odd Number : ",count_odd)
print("Sum of Even Number : ",sum_even)
print("Sum of Odd Number : ",sum_odd)
```

Q.3. Write a Python program to take input of a positive number, with an appropriate prompt, from

the user. The user should be prompted again to enter the number until the user enters a positive number. Check whether the number is a prime number or not and accordingly display appropriate message.

```
while True:
    Number = int(input("Enter a positive Number (for exit enter zero(0)"))
    if Number <= 1:
        break
    else:
        for i in range(2,Number):
            if Number % i == 0:
                print(" {} : is Not a prime number".format(Number))
                break
        else:
            print(" {} : is Prime Number".format(Number))
```

Q.4. Write a Python program to take input of a positive number, say N, with an appropriate prompt,

from the user. The user should be prompted again to enter the number until the user enters a positive number. Find the sum of first N odd numbers and first N even numbers. Display both the sums with appropriate titles.

```
numbers = []
sum_odd = 0;
sum_even = 0;
while True:
    N = int(input("Enter a positive Number"))
    if N<=0:
        break
    else:
        numbers.append(N)
    print(numbers)

for i in numbers:
    if i % 2 == 0:
        sum_even += i
    else:
        sum_odd += i

print("\n\n")
print("Sum of Odd Number : ",sum_odd)
print("Sum of Even Number : ",sum_even)
```

Q.5. Consider a list of numbers. Write a Python program to do the following:

1) Count total number of numbers in the list

2) Sum and Average of all the numbers in the list

3) Count and sum of all the odd numbers in the list

4) Count and sum of all the even numbers in the list

5) Find the largest number in the list

6) Find the smallest number in the list

Display all the values with appropriate titles.

```
numbers = []
count_even = 0
count_odd = 0
sum_even = 0
sum_odd = 0
while True:
    n = int(input("Enter a positive Number (for exit enter zero(0)"))
    if n == 0:
        break
    numbers.append(n)


for i in numbers:
    if i % 2 == 0:
        count_even += 1
        sum_even += i
    else:
        count_odd += 1
        sum_odd += i

print("\n\n")
print(f"Total number in the List are : {len(numbers)}")
print(f"Sum of numbers in the list are : {sum(numbers)}")
print(f"average of numbers in the list are : {sum(numbers)/len(numbers)}")
print(f"Toal Odd Number is : {count_odd} sum of Odd Numbers are : {
sum_odd}")
print(f"Toal Even Number is : {count_even} sum of Even Numbers are :
{count_odd}")
print(f"Largest number in the list are : {max(numbers)}")
print(f"Smallest number in the list are : {min(numbers)}")
```

Q.6. Consider a list of characters (characters may be alphabets, special characters, digits). Write a Python program to do the following:

1) Count total number of elements in the list

2) Count total number of vowels in the list (vowels are 'a', 'e', 'i', 'o', 'u')

3) Count total number of consonants in the list (a consonant is an alphabet other than vowel)

4) Count total number of characters other than vowels and consonants

Display all the values with appropriate titles.

```
char = []
count_vowels = 0
count_special = 0
count_consonants = 0

while True:
    n = input("Enter a Character  (for exit enter (exit)")
    if n.lower() == 'exit':
        break
    char.append(n[0])

for i in char:
    if i in 'aeiou':
        count_vowels += 1
    elif i in '`!@#$%^&*()_+-.1234567890 ':
        count_special += 1
    else:
        count_consonants +=1

print("\n\n")
print(f"The list  : {char}")
print(f"Total Number of Element in the List are : {len(char)}")
print(f"Total Number of Vowels in the List are : {count_vowels}")
print((f"Total Number of Consonants in the List are : {count_consonants}"))
print(f"Total Number of character(other tan vowels and Consonants :
{count_special}")
```

Q.7. Consider a single list consisting of integer values, float values, character values, string values and lists. Write a Python program to do the following:

1) Count total number of elements in the list

2) Count total number of integer values, float values, character values, string values and lists

Display all the values with appropriate titles.

```
int_value = 0
float_value = 0
char_value = 0
string_value = 0

char = [1,2.3,'c','vishal',2.6,'j']

for i in char:
    if type(i) == int:
        int_value += 1
    elif type(i) == float:
        float_value += 1
    elif type(i) == str:
        if len(i) == 1:
            char_value += 1
        else:
            string_value += 1


print(f"Total number of Element in the list : {len(char)}")
print(f"Total Number of Integer value : {int_value}")
print(f"Total Number of Float value : {float_value}")
print(f"Total Number of Character value : {char_value}")
print(f"Total Number of String value : {string_value}")
```

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