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Final-Term: Assignment

Subject : MPL

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Program : BS (CS)

Final Term Exam

Q1:

Write a program to compute the frequency of the words from the user input. The output should output after sorting the key alphanumerically. Suppose the following input is supplied to the program:

92: 2

also: 1

and: 1

code: 1

country: 1

in: 1

is: 1

Pakistan:

SOL:-

```
text_line = input("Type in: ")
freq_dict = {}
for i in text_line .split(' '):
    if i. isalpha():
        if i not in freq_dict:
            freq_dict[i] = 1
        elif i in freq_dict:
            freq_dict[i] = freq_dict[i] + 1
    else:
        Pass
sorted_freq_dict = sorted(freq_sdict.items(), key =
operator.itemgetter(0))
print(sorted_freq_dict)
for i in sorted_freq_dict:
    print(i[0], i[1])
```

Q2:

Print the following pattern using for loop (nested loop)

5 4 3 2 1

4 3 2 1

3 2 1

2 1

1

SOL:-

```
rows = 5
```

```
for i in range(rows, 0, -1):
```

```
    for j in range(0, i + 1):
```

```
        print(j, end=' ')
```

```
    print("\r")
```

Q3:

Write a Python function that takes a list and returns a new list with unique elements of the first list also print the returned list.

SOL :-

```
def unique_list(l):
```

```
    x = []
```

```
    for a in l:
```

```
        if a not in x:
```

```
            x.append(a)
```

```
    return x
```

```
print(unique_list([1,2,3,3,3,3,4,5]))
```

Q4:

Write a Python function that that prints out the first n rows (input no of rows from user) of Pascal's triangle.

SOL :-

```
n=int(input("Enter number of rows: "))
a=[]
for i in range(n):
    a.append([])
    a[i].append(1)
    for j in range(1,i):
        a[i].append(a[i-1][j-1]+a[i-1][j])
    if(n!=0):
        a[i].append(1)
for i in range(n):
    print("  "*(n-i),end=" ",sep=" ")
    for j in range(0,i+1):
        print('{0:6}'.format(a[i][j]),end=" ",sep=" ")
    print ()
```

Q5:

Write a recursive function to calculate the sum of numbers from 0 to 10

SOL:-

```
Def recur_sum (n):
```

```
    If n <= 1:
```

```
        return n
```

```
    else:
```

```
        return n + recur_sum(n-1)
```

```
# change this value for a different result
```

```
Num = 10
```

```
If Num < 0:
```

```
    Print("Enter a positive number")
```

```
else:
```

```
    print("the sum is ", recur_sum (Num))
```