Name: Vibin R
Roll No: 20BMC046

KUMARAGURU
COLLEGE OF TECHNOLOGY
LABORATORY WORK BOOK

Exercise/Experiment Number: 11

Lab Code / Lab : **U18CSI2201- PYTHON PROGRAMMING LAB**

Course / Branch : **I BE /B.Tech**

Title of the exercise/experiment : Implement python program to perform file operations.

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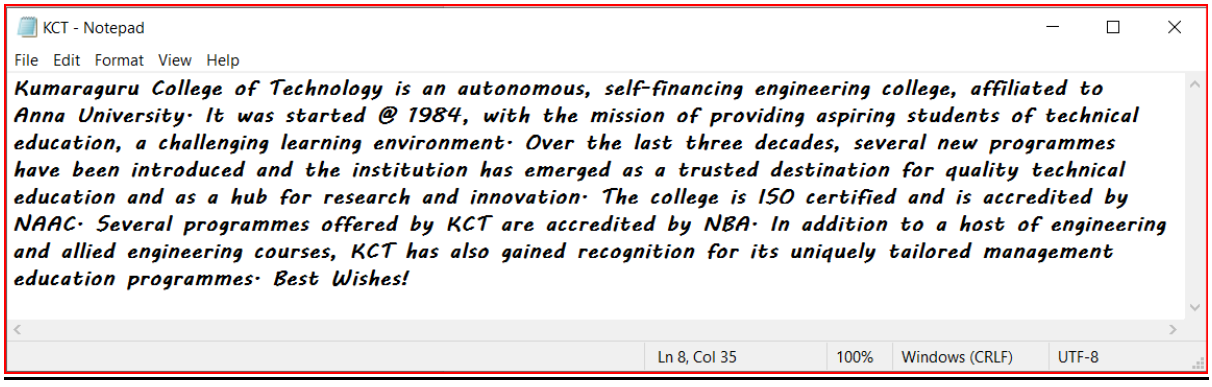
1. Write a python program to create a file named "KCT.txt". Save the contents given below in the file.

Kumaraguru College of Technology is an autonomous, self-financing engineering college, affiliated to Anna University. It was started @ 1984, with the mission of providing aspiring students of technical education, a challenging learning environment. Over the last three decades, several new programmes have been introduced and the institution has emerged as a trusted destination for quality technical education and as a hub for research and innovation. The college is ISO certified and is accredited by NAAC. Several programmes offered by KCT are accredited by NBA. In addition to a host of engineering and allied engineering courses, KCT has also gained recognition for its uniquely tailored management education programmes. Best Wishes!

Copy the content of the file "KCT.txt" to another file "KCT_NEW.txt".

Text File:



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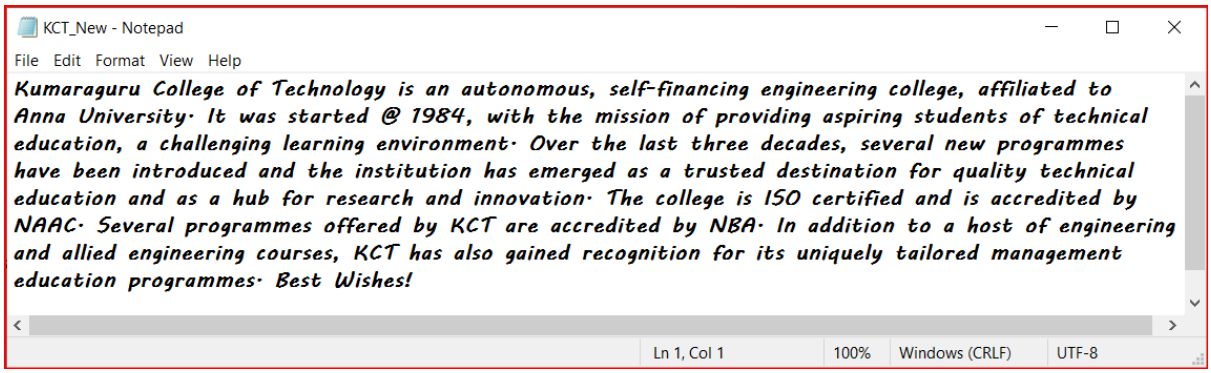
Code:

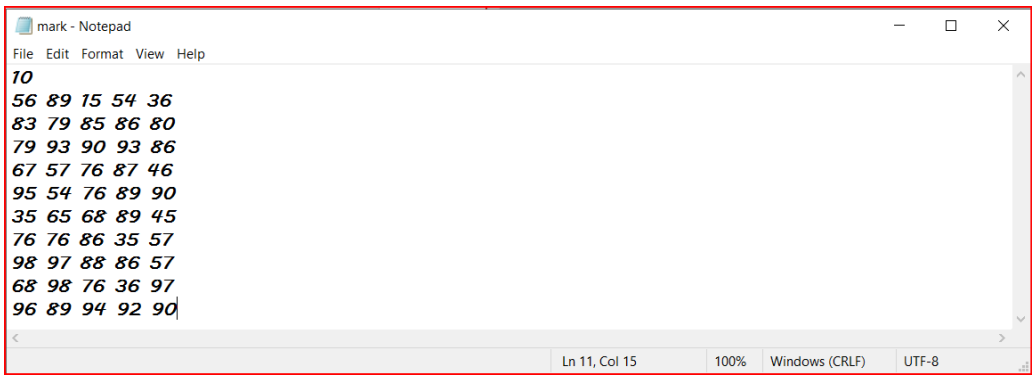
```
#Vibin_20BMC046
a=open('C:\\Users\\Vibin\\OneDrive\\Documents\\Python\\KCT.txt','r')
con=a.read()
a.close()
copy=open('C:\\Users\\Vibin\\OneDrive\\Documents\\Python\\KCT_New.txt','w')
copy.write(con)
copy.close
```

Copied File:



2. Write a Program to read the contents of mark.txt which contains the 5 subject marks of 10 students. First line in the file contains the total number of students.
Calculate the total marks and percentage by each student. Use readline().split().
Print the details like student no., subject marks, total and percentage in the screen. Also, store the results in a separate file called "result.txt".

Text File:



Code:

```
#Vibin_20BMC046
a=open('C:\\Users\\Vibin\\OneDrive\\Documents\\Python\\mark.txt','r')
con=a.readlines()
res=open('C:\\Users\\Vibin\\OneDrive\\Documents\\Python\\result.txt','w')
```

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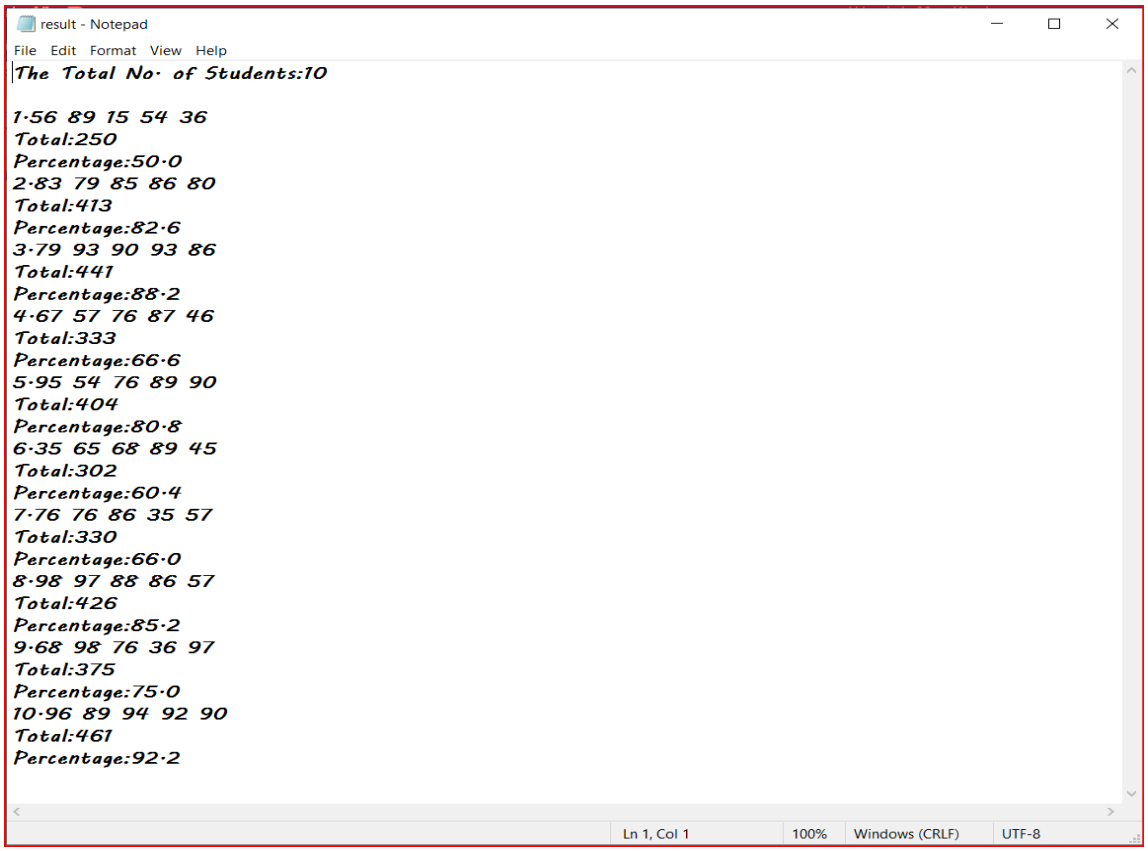
```
res.write("The Total No. of Students:")
res.write(str(con[0]))
s,p=[],[]
for i in range(1,int(con[0])+1):
    c=con[i].split(' ')
    tot=0
    for j in c:
        k=int(j)
        tot=tot+k
    s.append(tot)
for i in range(0,int(con[0])):
    res.write('\n')
    res.write(str(i+1))
    res.write('.')
    res.write(con[i+1])
    res.write('Total:')
    res.write(str(s[i]))
    res.write("\nPercentage:")
    res.write(str(s[i]/5))
res.close()
res=open('C:\\Users\\Vibin\\OneDrive\\Documents\\Python\\result.txt','r')
result=res.read()
print(result)
a.close()
```

Result File:



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Output:

```
In [2]: runfile('C:/Users/Vibin/.spyder-py3/temp.py', wdir='C:/Users/
Vibin/.spyder-py3')
The Total No. of Students:10

1.56 89 15 54 36
Total:250
Percentage:50.0
2.83 79 85 86 80
Total:413
Percentage:82.6
3.79 93 90 93 86
Total:441
Percentage:88.2
4.67 57 76 87 46
Total:333
Percentage:66.6
5.95 54 76 89 90
Total:404
Percentage:80.8
6.35 65 68 89 45
Total:302
Percentage:60.4
7.76 76 86 35 57
Total:330
Percentage:66.0
8.98 97 88 86 57
Total:426
Percentage:85.2
9.68 98 76 36 97
Total:375
Percentage:75.0
10.96 89 94 92 90
Total:461
Percentage:92.2
```

3. Write a Program to read the text from a file KCT.txt and count the number of characters, digits and special characters present in the file.

Code:

```
#Vibin_20BMC046
a=open('C:\\Users\\Vibin\\OneDrive\\Documents\\Python\\KCT.txt','r')
con=a.read()
letters="abcdefghijklmnopqrstuvwxyz"
digits="0123456789"
l=d=s=0
for i in con:
```

```
    if i in letters or i in letters.upper():
        l=l+1
    elif i in digits:
        d=d+1
    elif i==' ':
        continue
    else:
        s=s+1
print("Charecters:",l)
print("Digits:",d)
print("Special Charecters:",s)
a.close()
```

Output:

```
In [9]: runfile('C:/Users/Vibin/.spyder-py3/untitled0.py', wdir='C:/Users/
Vibin/.spyder-py3')
Charecters: 611
Digits: 4
Special Charecters: 23
```

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4. Write a Program to read the contents from a file "KCT.txt" and count the number of occurrences of vowels in the content.

Code:

```
#Vibin_20BMC046
a=open('C:\\Users\\Vibin\\OneDrive\\Documents\\Python\\KCT.txt','r')
con=a.read()
vow="aeiou"
v=0
for i in con:
    if i in vow or i in vow.upper():
        v=v+1
print("No. of occurences of vowels:",v)
a.close()
```

Output:

```
In [10]: runfile('C:/Users/Vibin/.spyder-py3/untitled1.py', wdir='C:/Users/
Vibin/.spyder-py3')
No. of occurences of vowels: 249
```

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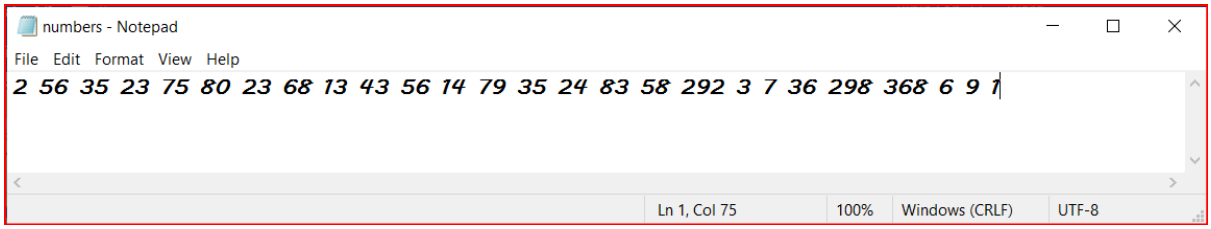
5. Create a file numbers.txt with numbers stored in it. Write a program to read the file, check for odd and even numbers and write the odd and even numbers separately in two files namely odd.txt and even.txt.

numbers.txt:



Code:

```
#Vibin_20BMC046
a=open('C:\\Users\\Vibin\\OneDrive\\Documents\\Python\\numbers.txt','r')
odd=open('C:\\Users\\Vibin\\OneDrive\\Documents\\Python\\odd.txt','w')
even=open('C:\\Users\\Vibin\\OneDrive\\Documents\\Python\\even.txt','w')
con=a.readline().split(" ")
a.close()
num=[int(i) for i in con]
print("The Numbers are:\n",num)
o,e=[],[]
for c in num:
    if c%2==0:
        e.append(c)
        even.write(str(c))
        even.write('\n')
    elif c%2!=0:
        o.append(c)
        odd.write(str(c))
        odd.write('\n')
print("ODD:\n",o)
print("EVEN:\n",e)
odd.close()
even.close()
```

Output:

```
In [25]: runfile('C:/Users/Vibin/.spyder-py3/untitled2.py', wdir='C:/Users/
Vibin/.spyder-py3')
The Numbers are:
 [2, 56, 35, 23, 75, 80, 23, 68, 13, 43, 56, 14, 79, 35, 24, 83, 58, 292, 3,
7, 36, 298, 368, 6, 9, 1]
ODD:
 [35, 23, 75, 23, 13, 43, 79, 35, 83, 3, 7, 9, 1]
EVEN:
 [2, 56, 80, 68, 56, 14, 24, 58, 292, 36, 298, 368, 6]
```

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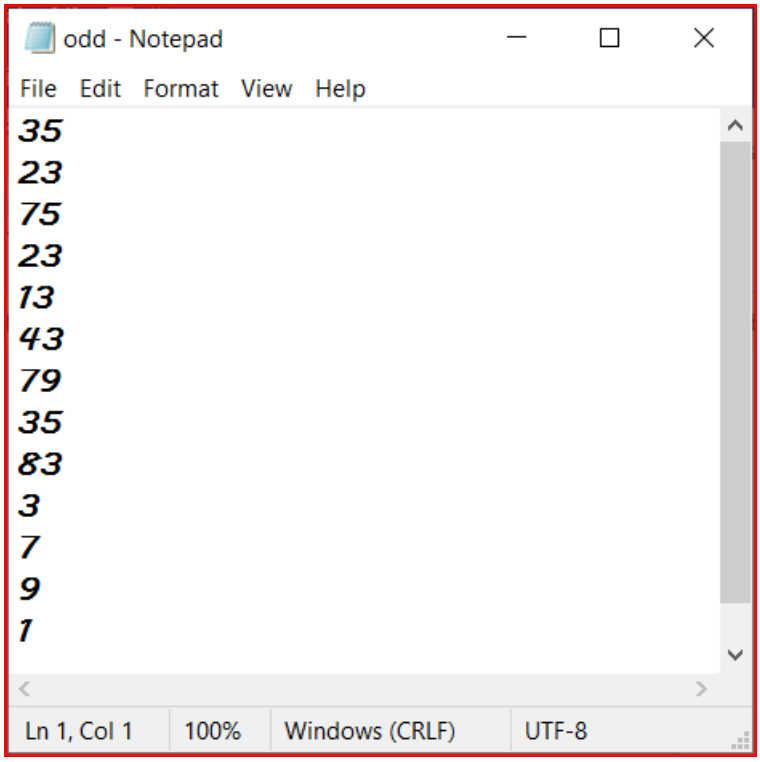
odd.txt:



even.txt: