

Python Basics 2

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Aim: To get a better understanding on lists, strings and dictionaries in python.

Question 1

```
In [2]: d = {"val1":10,"val2":20,"val3":23,"val4":22, "val5":96}
for key in d:
    if(d[key]%2 == 0 ):
        print(d[key])
```

10
20
22
96

Question 2

```
In [4]: ls = [25, 30, 63, 152, 696, 32]

even = list()
odd = list()

for element in ls:
    if(element%2 == 0):
        even.append(element)
    else:
        odd.append(element)

if odd:
    print("Odd Numbers : ",odd)
else:
    print("No Odd Numbers Present")
if even:
    print("Even Numbers : ",even)
else:
    print("No Even Numbers Present")
```

Odd Numbers : [25, 63]
Even Numbers : [30, 152, 696, 32]

Question 3

```
In [ ]: l = ["January", "February", "March"]
for s in l:
    print(s[:3])
```

Jan
Feb
Mar

Question 4

```
In [7]: l = list()
n = int(input("Enter Number of strings"))

for i in range(n):
    s = input("Enter element no "+str(i+1)+" ")
```

```

l.append(s)

for item in l:
    if((item[:1]>='A' and item[:1]<='M') or (item[:1]>='a' and item[:1]<='m')):
        print(item)

```

Enter Number of strings3
Enter element no 1 Shivan
Enter element no 2 Karthikeyan
Enter element no 3 Yona
Karthikeyan

Question 5

```

In [8]: n = int(input("Enter a 4 digit Number : "))
for i in range(4):
    print(n//10**(3-i))
    n = n % (10**(3-i))

```

Enter a 4 digit Number : 1235
1
2
3
5

Question 6

```

In [9]: def pay(wage, hour):
        if(hour<40):
            return wage*hour
        else:
            pay = (40*wage) + ((hour-40)*(wage*1.5))
            return pay

wage = int(input("Enter hourly pay : "))
hour = int(input("Enter hours : "))

pay = pay(wage, hour)
print("Total Pay : ", pay)

```

Enter hourly pay : 1200
Enter hours : 63
Total Pay : 89400.0

Question 7

```

In [10]: v = "aeiouAEIOU"
length = len(v)

def vowels(s):
    l = list()
    index = 0

    for c in s:
        flag = 0

        for i in range(length):
            if c == v[i]:
                flag+=1;

        if flag:
            l.append(index)
            index+=1
    return l

```

```
s = input("Enter the string : ")
indexes = vowels(s)

if(indexes):
    print("Vowels present at indexes :")
    for element in indexes:
        print(element)
else:
    print("No veowels present")
```

Enter the string : Ajims Mathew
Vowels present at indexes :
0
2
7
10

Question 8

```
In [11]: def intersect(a,b):
        l = list()
        for i in a:
            for j in b:
                if(i==j):
                    l.append(i)
        print("Common elements in both lists are ",l)

a = list()
b = list()
n = int(input("Enter the number of elements in list one : "))
print("Enter elements to list one :-"+"\\n")
for i in range(n):
    k=int(input())
    a.append(k)
m=int(input("Enter the number of elements in list two: "))
print("Enter elements to list two :-"+"\\n")
for i in range(m):
    k=int(input())
    b.append(k)
intersect(a,b)
```

Enter the number of elements in list one : 2
Enter elements to list one :-
1
5
Enter the number of elements in list two: 4
Enter elements to list two :-
1
2
3
8
Common elements in both lists are [1]

Question 9

```
In [13]: def mystery(a):
        i = 0
        while a>1:
            a = a//2
            i = i+1
        print(i)
```

```
a = int(input("enter a positive integer: "))
mystery(a)
```

```
enter a positive integer: 562
9
```

Question 10

```
In [15]: def reverse(phone):
          dict={}
          for i in phone:
              dict[phone[i]] = i
          print("reverse(Phonebook)",end="")
          print(dict)
          n = int(input("Enter the number of contacts: "))
          e = {}

          for i in range(n):
              k = input("Enter name: ")
              v = input("Enter number: ")
              e[k]=v
          print("phonebook=",end="")
          print(e)
          reverse(e)
```

```
Enter the number of contacts: 3
Enter name: John Joe
Enter number: 8523124143
Enter name: Rishikesh
Enter number: 9656854741
Enter name: Aleena Sebastian
Enter number: 5245454585
phonebook={'John Joe': '8523124143', 'Rishikesh': '9656854741', 'Aleena Sebastian': '524
5454585'}
reverse(Phonebook){'8523124143': 'John Joe', '9656854741': 'Rishikesh', '5245454585': 'A
leena Sebastian'}
```