

answer 1

for loop

```
l=[1,2,3,4,5]
for i in l:
    if i <= 6:
        print('this is a example of for loop')
```

this is a example of for loop
this is a example of for loop
this is a example of for loop
this is a example of for loop
this is a example of for loop

while loop

n=1

```
while n<= 5:
    print("example of while loop")
    n=n+1
```

example of while loop
example of while loop
example of while loop
example of while loop
example of while loop

answer 2

sum of first ten natural number using while loop
natural_no = 1
result=0

```
while natural_no <=10:
    result=result+natural_no
    natural_no = natural_no +1
```

```
print(result)
```

55

sum of first ten natural number using for loop

```
l=[1,2,3,4,5,6,7,8,9,10]
n =0
for i in l:
    n=n+i
    i=i+1
print(n)
```

55

#product of first ten natural number using while loop

```
natural_no = 1
result=1

while natural_no <=10:
    result=result*natural_no
    natural_no = natural_no +1

print(result)
```

3628800

product of first ten natural number using for loop

```
l=[1,2,3,4,5,6,7,8,9,10]
n =1
for i in l:
    n=n*i
    i=i+1
print(n)
```

3628800

answer 3

```
unit_consume=int(input("Enter your electricity unit consumed in a
month "))
amount=0
```

```
while unit_consume>0:
    if unit_consume <=100:
        amount=amount+(unit_consume*4.5)
        unit_consume=0
    elif unit_consume<=200:
        amount=amount+100*4.5
        unit_consume=unit_consume-100
        amount=amount+(unit_consume*6)
        unit_consume=0
    elif unit_consume<=300:
        amount=amount+100*4.5
        amount=amount+100*6
        unit_consume=unit_consume-200
        amount=amount+(unit_consume*10)
        unit_consume=0
    else:
        amount=100*4.5
        amount=amount+100*6
        amount=amount+100*10
```

```
unit_consume=unit_consume-300
amount=amount+unit_consume*20
unit_consume=0
```

```
print( "electricity bill = " , amount)
```

Enter your electricity unit consumed in a month 310

electricity bill = 2250.0

answer 4

```
# using for loop
```

```
l=[]
```

```
k=[]
```

```
for i in range(1,100):
```

```
    i=i**3
```

```
    l.append(i)
```

```
for j in l:
```

```
    if j%4 and j%5 == 0:
```

```
        k.append(j)
```

```
print(k)
```

```
[125, 3375, 15625, 42875, 91125, 166375, 274625, 421875, 614125,
857375]
```

```
#using while loop
```

```
l=[]
```

```
k=[]
```

```
n=1
```

```
m=100
```

```
while n<=m:
```

```
    z=n**3
```

```
    l.append(z)
```

```
    n=n+1
```

```
print(l)
```

```
[1, 8, 27, 64, 125, 216, 343, 512, 729, 1000, 1331, 1728, 2197, 2744,
3375, 4096, 4913, 5832, 6859, 8000, 9261, 10648, 12167, 13824, 15625,
17576, 19683, 21952, 24389, 27000, 29791, 32768, 35937, 39304, 42875,
46656, 50653, 54872, 59319, 64000, 68921, 74088, 79507, 85184, 91125,
97336, 103823, 110592, 117649, 125000, 132651, 140608, 148877, 157464,
166375, 175616, 185193, 195112, 205379, 216000, 226981, 238328,
250047, 262144, 274625, 287496, 300763, 314432, 328509, 343000,
357911, 373248, 389017, 405224, 421875, 438976, 456533, 474552,
493039, 512000, 531441, 551368, 571787, 592704, 614125, 636056,
658503, 681472, 704969, 729000, 753571, 778688, 804357, 830584,
857375, 884736, 912673, 941192, 970299, 1000000]
```

```
if i%4 and i%5 == 0 in l:  
    k.append(i)
```

```
print(k)
```

```
[]
```

```
answer 5
```

```
count=0  
string = "i want to become a data scientist"  
vowels=['a','e','i','o','u']  
for char in string:  
    if char.lower() in vowels:  
        count=count+1
```

```
count
```

```
12
```