

2 feb

February 25, 2023

answer 1

```
[59]: # 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

```
[60]: # 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

```
[61]: # 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

```
[62]: # 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

```
[63]: #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

```
[64]: # 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

```
[66]: 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

```

[80]: # 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]

```

[81]: #using while loop
l=[]
k=[]

n=1
m=100

while n<=m:
    z=n**3

```

```
l.append(z)
n=n+1
```

```
[90]: 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]
```

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

```
[92]: print(k)
```

```
[]
```

answer 5

```
[85]: 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
```

```
[86]: count
```

```
[86]: 12
```

```
[ ]:
```

```
[ ]:
```