

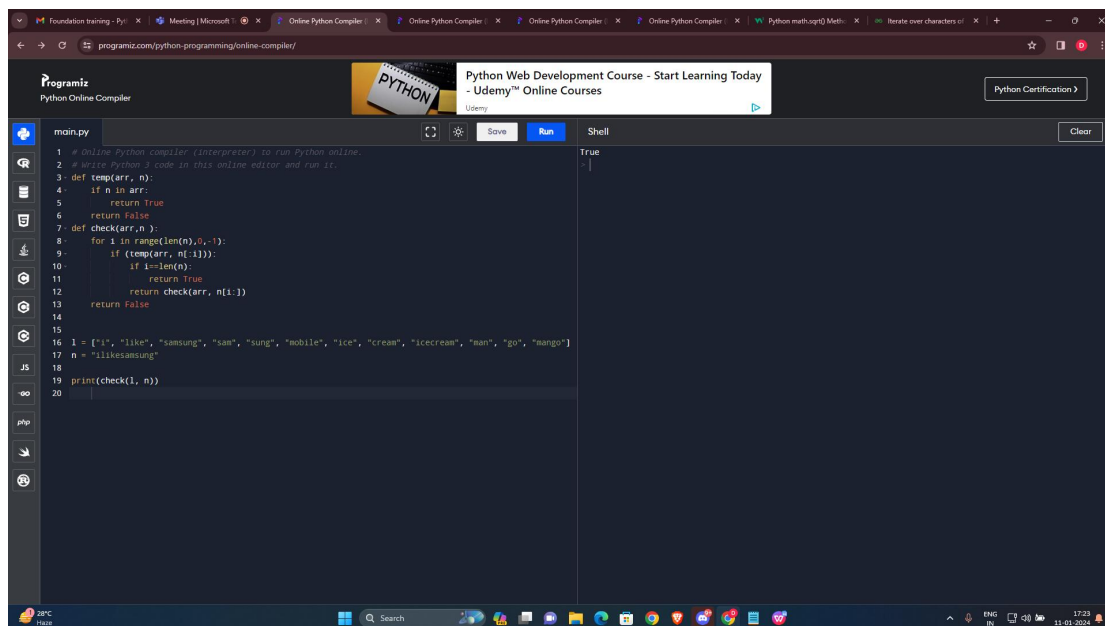
Question 1:

```
def temp(arr, n):  
    if n in arr:  
        return True  
    return False  
def check(arr,n):  
    for i in range(len(n),0,-1):  
        if (temp(arr, n[:i])):  
            if i==len(n):  
                return True  
            return check(arr, n[i:])  
    return False
```

```
l = ["i", "like", "samsung", "sam", "sung", "mobile", "ice", "cream", "icecream", "man",  
    "go", "mango"]
```

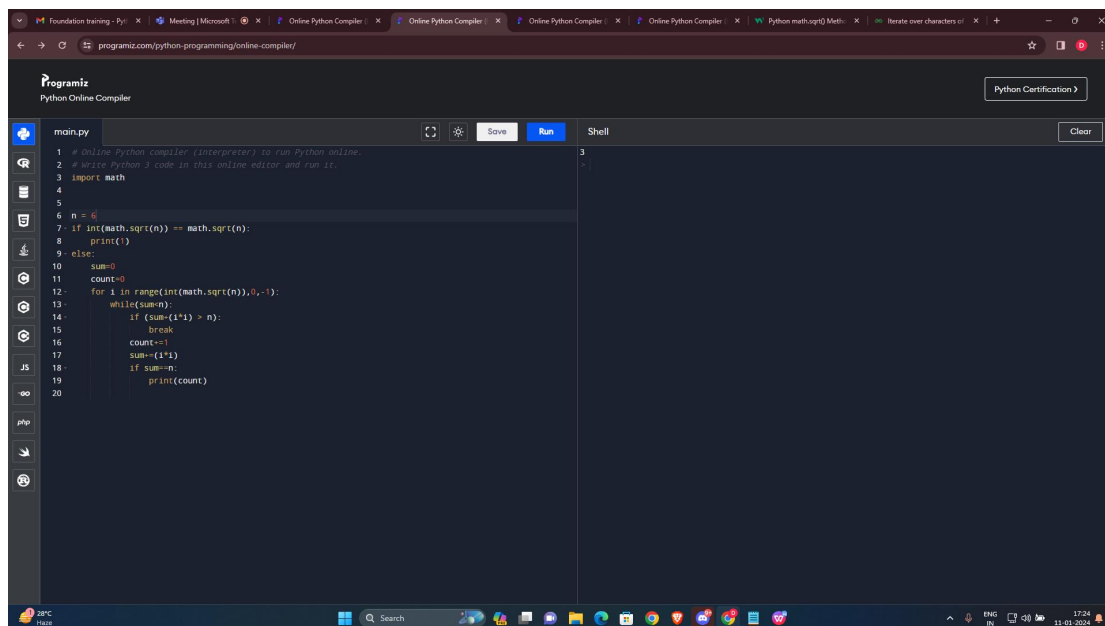
```
n = "ilikesamsung"
```

```
print(check(l, n))
```



Question 2:

```
import math
n = 104
if int(math.sqrt(n)) == math.sqrt(n):
    print(1)
else:
    sum=0
    count=0
    for i in range(int(math.sqrt(n)),0,-1):
        while(sum<n):
            if (sum+(i*i) > n):
                break
            count+=1
            sum+=(i*i)
            if sum==n:
                print(count)
```



The screenshot shows the Programiz Python Online Compiler interface. The code editor on the left contains the same Python code as the previous block. The output shell on the right shows the result of running the code, which is the number 3. The interface includes a top navigation bar with the Programiz logo and a 'Python Certification' button. The code editor has a dark theme and a sidebar with icons for file management and language selection. The bottom status bar shows the current temperature, search bar, and system clock.

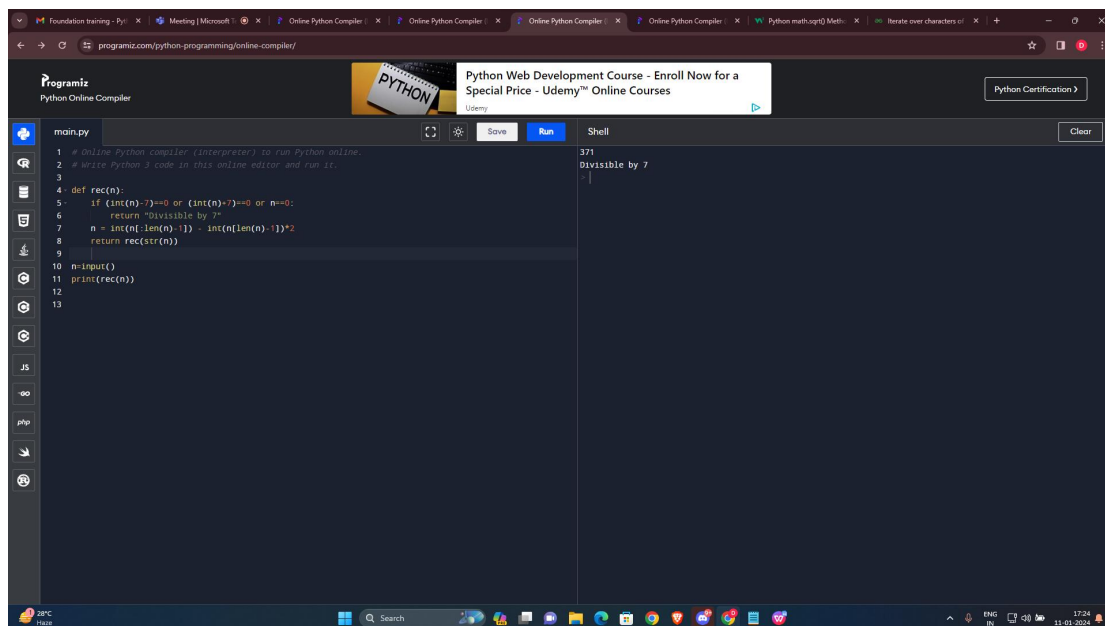
```
main.py
1 # Online Python compiler (interpreter) to run Python online.
2 # Write Python 3 code in this online editor and run it.
3 import math
4
5
6 n = 104
7 if int(math.sqrt(n)) == math.sqrt(n):
8     print(1)
9 else:
10     sum=0
11     count=0
12     for i in range(int(math.sqrt(n)),0,-1):
13         while(sum<n):
14             if (sum+(i*i) > n):
15                 break
16             count+=1
17             sum+=(i*i)
18             if sum==n:
19                 print(count)
20
```

3

Question 3:

```
def rec(n):  
    if (int(n)-7)==0 or (int(n)+7)==0 or n==0:  
        return "Divisible by 7"  
    n = int(n[:len(n)-1]) - int(n[len(n)-1])*2  
    return rec(str(n))
```

```
n=input()  
print(rec(n))
```



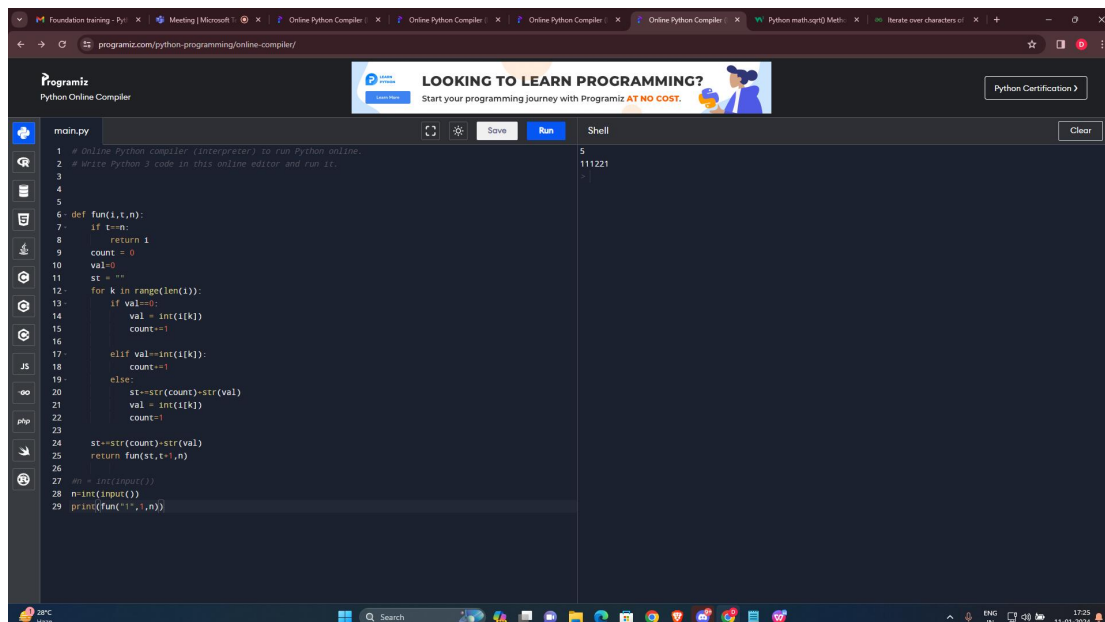
Question 4:

```
def fun(i,t,n):
    if t==n:
        return i
    count = 0
    val=0
    st = ""
    for k in range(len(i)):
        if val==0:
            val = int(i[k])
            count+=1

        elif val==int(i[k]):
            count+=1
        else:
            st+=str(count)+str(val)
            val = int(i[k])
            count=1

    st+=str(count)+str(val)
    return fun(st,t+1,n)

#n = int(input())
n=int(input())
print(fun("1",1,n))
```



The screenshot shows a web browser window with the Programiz Python Online Compiler. The code from the previous block is pasted into the editor. The output in the Shell window is as follows:

```
5
111221
>
```

The code in the editor is:

```
1 # Online Python Compiler (Interpreter) to run Python online.
2 # Write Python 3 code in this online editor and run it.
3
4
5
6 def fun(i,t,n):
7     if t==n:
8         return i
9     count = 0
10    val=0
11    st = ""
12    for k in range(len(i)):
13        if val==0:
14            val = int(i[k])
15            count+=1
16
17        elif val==int(i[k]):
18            count+=1
19        else:
20            st+=str(count)+str(val)
21            val = int(i[k])
22            count=1
23
24    st+=str(count)+str(val)
25    return fun(st,t+1,n)
26
27 #n = int(input())
28 n=int(input())
29 print(fun("1",1,n))
```