In [1]:
```
# os library dhekna use kal ke question ho jye ge
```

In [2]:
```
# looping statement
#for while
```

In [3]:
```
#indexing
# two types ==> 1). Positive  2). Negative
state ="RAJASTHAN"
state[0]
```

Out[3]: 'R'

In [4]:
```
state ="RAJASTHAN"
state[2]
```

Out[4]: 'J'

In [5]:
```
state ="RAJASTHAN"
state[-1]
```

Out[5]: 'N'

In [6]:
```
# position ke according
# using(slicing operator)
# [start: stop: [step=1]]
```

In [7]:
```
state ="RAJASTHAN"
state[0:4]
```

Out[7]: 'RAJA'

In [8]:
```
state ="RAJASTHAN"
state[0:6]
```

Out[8]: 'RAJAST'

In [9]:
```
state ="RAJASTHAN"
state[3:]
```

Out[9]: 'ASTHAN'

In [10]:
```
state ="RAJASTHAN"
state[:4]

# state[0:4]
# state[0:4:1]
```

Out[10]: 'RAJA'

In [11]:
```
state ="RAJASTHAN"
state[0:5:1]
```

Out[11]: 'RAJAS'

In [12]:
```
state ="RAJASTHAN"
state[0:5:2]
```

Out[12]: 'RJS'

In [13]:
```
state ="RAJASTHAN"
state[0:4:-1]
```

Out[13]: ''

In [14]:
```
state ="RAJASTHAN"
state[-4:-1]
```

Out[14]: 'THA'

In [15]:
```
state ="RAJASTHAN"
state[-1:-4:-1]
```

Out[15]: 'NAH'

In [16]:
```
#loops (repetative)
# range(start, stop, [step=1] )
#for i in range(0,10)
```

In [17]:
```
for i in range(1,5):
    print(i)
```

```
1
2
3
4
```

In [18]:
```
for i in range(1,8,3):
    print(i)
```

```
1
4
7
```

In [19]:
```
# from 97 to 18 and print 5 and 7
```

In [20]:
```
for i in range(97, 17, -1):
    if i % 10 == 5 or i % 10 == 7:
        print(i)
```

```
97
95
87
85
77
75
67
65
57
55
47
45
37
35
27
25
```

In [21]:
```
data="hello"
len(data)
```

Out[21]: 5

In [22]:
```
for index in range(0,5):
    print(index,data)
```

```
0 hello
1 hello
2 hello
3 hello
4 hello
```

In [23]:
```
for index in range(0,5):
    print(index,data , data[index])
```

```
0 hello h
1 hello e
2 hello l
3 hello l
4 hello o
```

In [24]:
```
data='tushar'
for index in range(0,len(data)):
    print(index,data , data[index])
```

```
0 tushar t
1 tushar u
2 tushar s
3 tushar h
4 tushar a
5 tushar r
```

In [25]:
```
# run a for loop and find the total no. of for loop without using len method
my_string = "Hello, world!"
count = 0
for i in my_string:
    count += 1
print("Total number of characters:", count)
```

```
Total number of characters: 13
```

In [26]:
```
string = "HelloWorld"
count = sum(1 for i in string)
print( count)
```

```
10
```

In [27]:
```
count=0
for i in "hello":
    count +=1

print(count)
```

```
5
```

In [28]:
```
v=['a','e','i','o','u']
for i in "hello":
    if i in v:
        print(i)
```

```
e
o
```

In [29]:
```
for i in "hello hey":
    if(i in "aeiou"):
        print(i)
    elif(i not in "aeiou"):
        print("this:" ,i)
```

```
this: h
e
this: l
this: l
o
this:
this: h
e
this: y
```

In [30]:
```
# nested loop
for i in range(1,4):
    print("hello",i)

    for j in range(1,5):
        print("yash ", j)
```

```
hello 1
yash  1
yash  2
yash  3
yash  4
hello 2
yash  1
yash  2
yash  3
yash  4
hello 3
yash  1
yash  2
yash  3
yash  4
```

In [31]:
```
# nested loop
for i in range(1,5):
    print(i)

    for j in range(1,5):
        print("*")
```

```
1
*
*
*
*
2
*
*
*
*
3
*
*
*
*
4
*
*
*
*
```

In [32]:
```
for i in range(1,5):
    print(i)
    for j in range(1,5):
        print("*",end="")
```

```
1
****2
****3
****4
****
```

In [33]:
```
for i in range(1,5):

    for j in range(1,5):
        print("*",end="")
    print("",end="\n")
```

```
****
****
****
****
```

In [34]:
```
for i in range(1,5):
    for j in range(1,5):
        print(i,end="")
    print("",end="\n")
```

```
1111
2222
3333
4444
```

In [35]:
```
for i in range(1,5):
    for j in range(1,5):
        print(j,end="")
    print("",end="\n")
```

```
1234
1234
1234
1234
```

In [36]:
```
for i in range(5,0,-1):
    for j in range(5,0,-1):
        print(j,end="")
    print("",end="\n")
```

```
54321
54321
54321
54321
54321
```

In [37]:
```
for i in range(1,5):
    for j in range(1,i+1):
        print("*",end="")
    print("",end="\n")
```

```
*
**
***
****
```

In [38]:
```
for i in range(1,5):
    for j in range(i,5):
        print("*",end="")
    print("",end="\n")
```

```
****
***
**
*
```

In [39]:
```
for i in range(1,5):
    for j in range(1,i+1):
        print(j,end="")
    print("",end="\n")
```

```
1
12
123
1234
```

In [40]:
```
for i in range(1,5):
    for j in range(1,i+1):
        print(j,end="")
    print("",end="\n")
```

```
1
12
123
1234
```

In [43]:
```
# take a input string froma user and validate on following conditions
'''cond 1 the string should have min 3 capital letter
cond 2 the string should have min 2 small letter
cond 3 the string should have min 2 letter
cond 4 the string should have 5 or 15 length
and can have any special character like # , !
and then in this if all condition is follow so print password is correct
without upper and any thing'''
```

Out[43]:
```
'cond 1 the string should have min 3 capital letter\ncond 2 the string should
have min 2 small letter\ncond 3 the string should have min 2 letter\ncond 4 t
he string should have 5 or 15 length\nand can have any special character like
# , ! \nand then in this if all condition is follow so print password is corr
ect \nwithout upper and any thing'
```

In [ ]:
```
#ques
#take a input from a user int and we have to find wheather a prime no is have
#1 or kud se divide hoga
```

In [42]:
```
prime = int(input("Enter the number to check if it's prime: "))

if prime > 1:
    for i in range(2, prime):
        if prime % i == 0:
            print(prime, "is not a prime number")
            break
    else:
        print(prime, "is a prime number")
else:
    print(prime, "is not a prime number")
```

```
Enter the number to check if it's prime: 7
7 is a prime number
```

In [51]:
```
# this is code by chatgpt
#but this is wrong
# Initialize counters for capital letters, small letters, total letters, and s
capital_count = 0
small_count = 0
total_letters = 0
special_count = 0

# Input string from the user
input_string = input("Enter the string: ")

# Check conditions for the input string
if len(input_string) == 5 or len(input_string) == 15:
    for char in input_string:
        ascii_value = ord(char)
        if 65 <= ascii_value <= 90:  # ASCII range for capital letters
            capital_count += 1
            total_letters += 1
        elif 97 <= ascii_value <= 122:  # ASCII range for small letters
            small_count += 1
            total_letters += 1
        elif 33 <= ascii_value <= 47 or 58 <= ascii_value <= 64:  # ASCII rang
            special_count += 1

    if capital_count >= 3 and small_count >= 2 and total_letters >= 2 and (len
        print("Password is correct")
    else:
        print("Password is incorrect. Please ensure it meets the requirements.
else:
    print("Password length should be 5 or 15 characters.")
```

```
Enter the string: Y@s1
Password length should be 5 or 15 characters.
```

In [ ]: