Locate the Target String

Given two strings (str) & (target), return the index where target string occurs for the first time in String str.

Sample Input 0

8 → geekster
t → st

Sample Output 0

4

eg2. t → (sta) ⟿ ans = -1

8 → g e e k s t e r
    0 1 2 3 4 5 6 7

eg3. t → (ste)
      answer → 4

eg 4. t → "s"
       answer → 4

eg 5. 8 → " g e e e s k s t e r "
                0 1 2 3 4 5 6 7 8

       t → " s "

$s.$ indexOf (t)

2 strings.

$s \rightarrow$ amanansar

$t \rightarrow$ "a".

$s.$ indexOf (t)
⟶ searching t in s

$t.$ indexOf (s)
⟶ search s in t

last

```java
1  import java.io.*;
2  import java.util.*;
3
4  public class Solution {
5
6      public static void main(String[] args) {
7          Scanner scn = new Scanner(System.in);
8          String s = scn.next();
9          String t = scn.next();
10         System.out.println(s.indexOf(t));
11     }
12 }
```

```java
     5
 6 ▼   public static void main(String[] args) {
 7         Scanner scn = new Scanner(System.in);
 8         String s = scn.next();
 9         String t = scn.next();
10
11         int ans = -1;
12
13 ▼     for(int i = 0; i < s.length(); i++){
14 ▼         if(s.charAt(i) == t.charAt(0)){
15                 int idx = 0;
16                 int j = i;
17 ▼             while(idx < t.length() && j < s.length() ){
18 ▼                 if(s.charAt(j) == t.charAt(idx)){
19                         idx++;
20                         j++;
21 ▼                 }else{
22                         break;
23                     }
24                 }
25 ▼             if(idx == t.length() && j == i + t.length()){
26                     ans = i;
27                     break;
28                 }
29             }
30         }
31
32
```
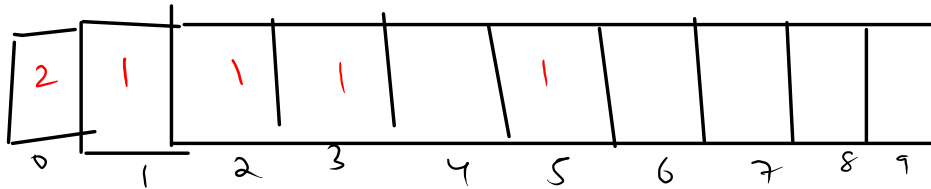
s →

t →

s.indexOf(t)

Find Unique.

Alice was a computer science student who loved to experiment with different programming techniques. One day, she came across a problem that required her to find the total number of **unique** digits in a given **string**.

wirte a program that find out the number if unique digits in a string.

digits → '0' to '9'

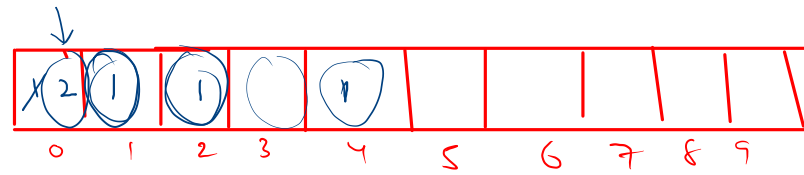eg " 1 0 0 2 3 5 ."

freq.

2	1	1	1		1				
0	1	2	3	4	5	6	7	8	9

if   freq[i] != 0
        count ++

s → "10024"
       0 1 2 3 4
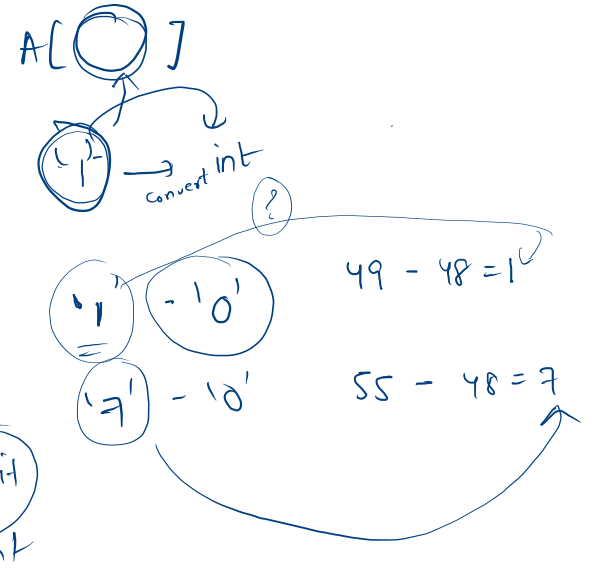
len = 5

count ++

i = 0   0 < 5

```java
1  import java.io.*;
2  import java.util.*;
3
4  public class Solution {
5
6      public static void main(String[] args) {
7          Scanner scn = new Scanner(System.in);
8          String s = scn.next();
9          int [] freq = new int[10];
10         for(int i = 0;i < s.length(); i++){
11             char ch = s.charAt(i);
12             freq[ch - '0'] = freq[ch - '0']+1;
13         }
14         int count = 0;
15         for(int i = 0; i < 10; i++){
16             if(freq[i] != 0){
17                 count++;
18             }
19         }
20         System.out.println(count);
21     }
22 }
```

A[○]

'1' → convert int

'1'   - '0'

'7'   - '0'

49 - 48 = 1

55 - 48 = 7

ch
   ↳ digit   - '0' = digit
                          int

Find Distance.

$$G \quad e \quad e \quad k \quad s$$
$$0 \quad 1 \quad 2 \quad 3 \quad 4$$

Sample Input 0

```
Geeks
G
s
```

$$G \rightarrow 0$$

$$s \rightarrow 4$$

Sample Output 0

```
3
```

$$4 - 0 - 1 =$$

$$a \quad b \quad c \quad d \quad e \quad f$$
$$0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5$$

$$f \rightarrow 5$$
$$b \rightarrow 1$$

$$g_0 \ e_1 \ e_2 \ k_3 \ s_4 \ t_5 \ e_6 \ r_7$$

z

$e \rightarrow$ (1, 2, 6)

size = 3

e	e	e
1	2	6
0	1	2

$c1 = e \rightarrow$

$c2 = e \rightarrow$

1 1
1 2   2 6
1 6

1	2	6

1 2
1 ←
5 ← 1 6

$26 \rightarrow 4$

$i2 \underbrace{\quad}_{} j1 - 1$

$$\frac{}{1 - 1 = 0}$$

```java
import java.io.*;
import java.util.*;

public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        String s = scn.next();
        char c1 = scn.next().charAt(0);
        char c2 = scn.next().charAt(0);

        int i1 = s.indexOf(c1);
        int i2 = s.indexOf(c2);
        System.out.println(i2-i1-1);
    }
}
```

sub-array.

1   2   3   4

$_0 1 _0$ $_1 2 _1$ $_2 3 _2$ $_3 4 _3$

$_0 1$ $2 _1$ $_1 2$ $3 _2$ $_2 3$ $4 _3$

$_0 1$ 2 $3 _2$ 1 2 3 $4 _3$

$_0 1$ 2 3 $4 _3$

st	end
0	0, 1, 2, 3
1	1, 2, 3
2	2, 3
3	3

Substring

"$abcd$"
$0\ 1\ 2\ 3$

$_0 a_0$

$_0 a b_1$ $_1 b_1$ $_2 c$ $_3 d_3$

$_0 a b c_2$ $_1 \cancel{bc}_2$ $_2 c d_3$

$_0 a b c d_3$ $_1 b c d_3$

st	end
0	0, 1, 2, 3
1	1, 2, 3
2	2, 3
3	3

$s \rightarrow$ "abcde f g h"

0 1 2 3 4 5 6 7

s. substring (3   ) $\rightarrow$ defgh

```java
import java.io.*;
import java.util.*;

public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        String s = scn.next();

        int n =s.length();

        //logic
        for(int start = 0; start < n; start++){
            for(int end = start; end < n; end++){

                for(int k = start; k <= end; k++){
                    System.out.print(s.charAt(k));
                }
                System.out.println();
            }
        }

    }
}
```

inbuit → _substring._

$s →$ " a b c d e f g h "
    0 1 2 3 4 5 6 7

1. $s.substring(2) →$ cdefgh.

    $s.substring(4) →$ efgh

```
 7
 8     ********************************************************
 9     public class Main
10     {
11         public static void main(String[] args) {
12             String s = "abcdefgh";
13
14             System.out.println(s.substring(5));
15         }
16     }
17
```

→ fgh

8. substring (start , end).

$\rightarrow$ res?

$s = 3$
$end = 8$ $\rightarrow$ defgh

$s = 3$
$end = 7$ $\rightarrow$ defg

$s \rightarrow$ "a b c d e f g h"
   0 1 2 3 4 5 6 7

start = 2
end = 6

[start , end)

start with start_index
and end before end_index.

```java
8   *****************************
9   public class Main
10  {
11      public static void main(String[] args) {
12          String s = "abcdefgh";
13
14          System.out.println(s.substring(3,7));
15      }
16  }
17
```
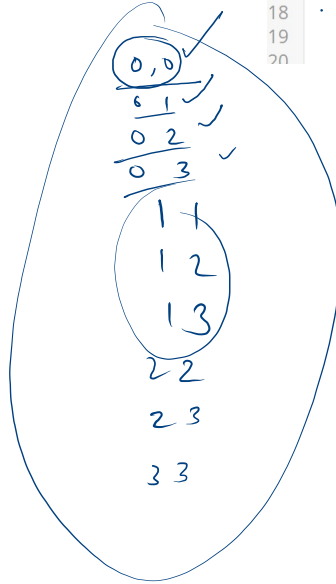
print all substring

s → a b c d
  0   2

abcd

n = len = 4

a 0
a b 1
a b c 2
a b c d 3

b 1
b c 2
b c d 3

c 2
c d 3

d 3

st	end
0	0, 1, 2, 3
1	1, 2, 3
2	2, 3
3	3

SS (0, 2)

[0, 2)

[0, 1]

```
12    //logic
13    for(int start = 0; start < n; start++){
14        for(int end = start; end < n; end++){
15
16            System.out.println();
17        }
18    }
19
20
```

[ )

0, 0
0 1
0 2
0 3
1 1
1 2
1 3
2 2
2 3
3 3

```java
public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        String s = scn.next();

        int n =s.length();

        //logic
        for(int start = 0; start < n; start++){
            for(int end = start; end < n; end++){
                System.out.println(s.substring(start, end+1));
            }
        }


//        for(int i = 0; i < n; i++){
//            for(int j = i; j < n; j++){
```

Overriding.