

Breaking out of a For loop:

break keyword can be used to abruptly end the iterations of a loop. When encounter a break statement inside a running loop, the loop is terminated and control goes out to the next statement outside for loop.

How break works?

```
for(---; ---; ---)
{
    //statement 1
    //statement ...
    //statement n

    if(some condition)
    {
        break;
    }

    //statement
}

//statement outside loop ←
```

Example 1: Using break

```
1  int n = 2;
2  int count = 0;
3  for(int i = 1; i <= 3; i++)
4  {
5      System.out.println("Hello");
6      if(i == n)
7      {
8          break;
9      }
10     System.out.println("World");
11     count = count + 1;
12 }
13 System.out.println("Outside:" + count);
```

Input	Output
n = 1	Hello Outside:0
n = 2	Hello World Hello Outside:1
n = 4	Hello World

	Hello World Hello World Outside:3
--	---

Problem 1 Give output of following code for each input given under the code.

```

1  int num = 12;
2  int x = 2;
3  for(int i = 1; i <= num; i++)
4  {
5      if(num % x == 0)
6      {
7          break;
8      }
9      x = x + 1;
10 }
11 System.out.println(x);

```

Output when:

num = 12, x = 2
num = 11, x = 7
num = 3, x = 4

Problem 2 Give output of following code for each input given under the code.

```

1  int num = 4;
2  int a = 1;
3  int b = 2;
4  String sk = "";
5  for(int i = a; i <= b; i++)
6  {
7      sk = sk + i;
8      if(num % i == 0)
9      {
10         sk = sk + "#"
11         break;
12     }
13     sk = sk + "y";
14 }
15 System.out.println(sk);

```

Output when:

num = 14, a = 5, b = 9
num = 11, a = 3, b = 6
num = 9, a = 7, b = 11

Example 1: Using break to end an infinite loop.

```

1  for(int i = 1; ; i++)           //infinite loop: notice missing condition
2  {
3      if(i % 3 == 0)
4      {
5          break;
6      }
7      else
8      {
9          System.out.println(i);
10     }
11 }

```

Output:

```

1
2

```

Problem 3	Give output of following code for each input given under the code.
<pre> 1 int n = 9; 2 int z = 0; 3 for(int i = n; ; i++) 4 { 5 if(i % 7 == 0) 6 { 7 break; 8 } 9 else 10 { 11 z = z + 1; 12 } 13 } 14 System.out.println(z); </pre>	
Output when: n = 9 n = 7 n = 23	

Example 3: Count character 't' till first occurrence of '#'. Use simple for loop with break to solve.

```

1  String str = "trise#ct";
2  int len = str.length();
3  int count = 0;
4  for(int i = 0; i < len; i++)    //for condition depends on length of string
5  {
6      char ch = str.charAt(i);
7      if(ch == '#')
8      {
9          break;
10     }
11     if(ch == 't')

```

```

12     {
13         count = count + 1;
14     }
15 }
16 System.out.println("Count:" + count);

```

Input	Output
str = "trise#ct"	Count:1
str = "tit#for#tat"	Count:2
str = "#1234"	Count:0

Problem 4	Give output of following code for each input given under the code.
------------------	---

```

1  String str = "trise#ct";
2  int len = str.length();
3  int ctr = 0;
4  int x = 0;
5  for(int i = 0; i < len; i++)          //for condition depends on length of string
6  {
7      char ch = str.charAt(i);
8      if(ch == '#')
9      {
10         x = x + 1;
11     }
12     if(x == 2)
13     {
14         break;
15     }
16     if(x == 1)
17     {
18         ctr = ctr + 1;
19         System.out.println(ch);
20     }
21 }
22 System.out.println(ctr);

```

Output when:

```

str = "eat#code#sleep"
str = "tris#ect"
str = "#red#blue#green#"

```