L5 : Patterns2 Practice Questions

1-Tut : Code : Inverted Number Pattern

Send Feedback

Print the following pattern for the given N number of rows.

Pattern for N = 4

4444
333
22
1

Input format : Integer N (Total no. of rows)

Output format : Pattern in N lines

Constraints :

0 <= N <= 50

Sample Input 1:

5

Sample Output 1:

55555
4444
333
22
1

Sample Input 2: 6

Sample Output 2:

666666
55555
4444
333
22
1

```
## Read input as specified in the question
## Print the required output in given format
N = int(input())
i = 1
while(i <= N):
    j = N - i + 1
    k = j
    while(j>=1):
        print(k,end='')
        j=j-1
    print()
    i=i+1
```

2-Tut : Code : Mirror Number Pattern

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Print the following pattern for the given N number of rows.

Pattern for N = 4

```
···1
··12
·123
1234
```

The dots represent spaces.

Input format : Integer N (Total no. of rows)

Output format : Pattern in N lines

Constraints

0 <= N <= 50

Sample Input 1: 3

Sample Output 1:

```
  1
 12
123
```

Sample Input 2: 4

Sample Output 2:

```
   1
  12
 123
1234
```

```
1.  N = int(input())
2.  i = 1
3.  while(i <= N):
4.      j = 1
5.      while(j <= N-i):
6.          print(' ',end='')
7.          j = j +1
8.      s = 1
9.      while(s <= i):
10.         print(s,end='')
11.         s = s + 1
12.     print()
13.     i=i+1
```

3-Tut: Code : Star Pattern

Send Feedback

Print the following pattern

Pattern for N = 4

```
···*
··***
·*****
*******
```

The dots represent spaces.

Input Format : N (Total no. of rows)

Output Format : Pattern in N lines

Constraints :

0 <= N <= 50

Sample Input 1 :3

Sample Output 1 :

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

Sample Input 2 :4

Sample Output 2 :

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

```
1. N = int(input())
2. i = 1
3. while(i <= N):
4.     spaces = 1
5.     while(spaces <= N-i):
6.         print(' ',end='')
7.         spaces = spaces +1
8.     star = 1
9.     while(star <= 2*i - 1):
10.        print('*',end='')
11.        star = star + 1
12.    print()
13.    i=i+1
```

4-Tut: Code : Triangle of Numbers

Send Feedback

Print the following pattern for the given number of rows.

Pattern for N = 4

```
···1
··232
·34543
4567654
```

The dots represent spaces.

Input format : Integer N (Total no. of rows)
Output format : Pattern in N lines
Constraints :
0 <= N <= 50
Sample Input 1:5
Sample Output 1:
```
    1
   232
  34543
 4567654
567898765
```
Sample Input 2:4
Sample Output 2:
```
   1
  232
 34543

4567654
```

```
N = int(input())
i = 1
while(i <= N):
    spaces = 1
    while(spaces <= N-i):
        print(' ',end='')
        spaces = spaces +1
    num = i
    j = 1
    while(j <= i ):
        print(num,end='')
        num = num + 1
        j = j + 1

    p = i - 1
    k = 2*i - 2
    while(p >= 1):
        print(k,end='')
        k = k -1
        p = p -1
    print()
    i=i+1
```

5-Tut : Code : Diamond of stars

Send Feedback
Print the following pattern for the given number of rows.

Note: N is always odd.

Pattern for N = 5

```
··*
·***
*****
·***
··*
```

The dots represent spaces.

Input format : N (Total no. of rows and can only be odd)

Output format : Pattern in N lines

Constraints :

1 <= N <= 49

Sample Input 1: 5

Sample Output 1:

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

Sample Input 2: 3

Sample Output 2:

```
 *
***

 *
```

```
N = int(input())
firsthalf = (N+1)//2
secondhalf = N//2

rows = 1
while(rows <= firsthalf):
    spaces = 1
    while(spaces <= firsthalf-rows):
        print(" ",end='')
        spaces = spaces + 1
    stars = 1
    while(stars <= (2*rows -1) ):
        print("*",end='')
        stars = stars + 1
    print()
    rows = rows + 1
rows = secondhalf
while(rows >= 1):
    spaces = 1
```

```
    while(spaces <= firsthalf - rows):
        print(" ",end='')
        spaces = spaces + 1
    stars = 1
    while(stars <= (2*rows -1) ):
        print("*",end='')
        stars = stars + 1
    print()
    rows = rows - 1
. 
```

6-Ass: Number Pattern

Send Feedback

Print the following pattern for n number of rows.

For eg. N = 5

```
1             1
12           21
123         321
1234      4321
123455432 1
```

Sample Input 1 : 4

Sample Output 1 :

```
1         1
12       21
123    321
12344321
```

```
N = int(input())
row = 1
while(row <= N):
    fwd = 1
    while(fwd <= row):
        print(fwd,end='')
        fwd = fwd + 1
    space = 1
    while(space <= 2*(N-row) ):
        print(" ",end='')
        space = space+1
    bwd = row
    while(bwd >= 1):
        print(bwd,end='')
        bwd = bwd -1
    print()
    row = row + 1
```

7-Ass : Zeros and Stars Pattern

Send Feedback

Print the following pattern

Pattern for N = 4

```
*000*000*
0*00*00*0
00*0*0*00
000***000
```

Input Format : N (Total no. of rows)
Output Format : Pattern in N lines
Sample Input 1 : 3
Sample Output 1 :

```
*00*00*
0*0*0*0
00***00
```

Sample Input 2 : 5
Sample Output 2 :

```
*0000*0000*
0*000*000*0
00*00*00*00
000*0*0*000
0000***0000
```

```
## Read input as specified in the question.
## Print output as specified in the question.
lines=int(input())
i=1
j=1
while i<=lines:
    j=1
    while j<=lines:
        if i==j:
            print("*", end='', flush=True)
        else :
            print("0", end='', flush=True)
        j=j+1
    j=j-1;
    print("*", end='', flush=True)
    while j>=1:
        if i==j:
            print("*", end='', flush=True)
        else :
            print("0", end='', flush=True)
        j=j-1
    print("");
    i=i+1
```

8-Ass: Pyramid Number Pattern

Send Feedback

Print the following pattern for the given number of rows.

Pattern for N = 4

```
 1
 212
 32123
4321234
```

Input format : N (Total no. of rows)
Output format : Pattern in N lines
Sample Input : 5
Sample Output :

```
    1
   212
  32123
 4321234
543212345
```

```
## Read input as specified in the question.
## Print output as specified in the question.
N = int(input())
row = 1
while(row <= N):
    space = 1
    while(space <= N-row):
        print(" ",end='')
        space = space +1
    num = row
    while(num >= 1):
        print(num,end='')
        num = num -1
    num = 2
    k = row-1
    while(k >= 1):
        print(num,end='')
        k = k - 1
        num = num + 1
    print()
    row = row + 1
```

9-Ass: Arrow pattern

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Print the following pattern for the given number of rows. Assume N is always odd.

Note : There is space after every star.
Pattern for N = 7

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

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

Input format : Integer N (Total no. of rows)
Output format : Pattern in N lines
Sample Input :11
Sample Output :

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

*
```

```
## Read input as specified in the question.
## Print output as specified in the question.
N = int(input())
firsthalf = (N+1)//2
sh = N//2
row = 1
while(row <= firsthalf):
    space = 1
    while(space <= row - 1):
        print(' ',end='')
        space = space + 1
    star = 1
    while(star <= row):
        print("* ",end='')
        star = star + 1
    print()
    row = row +1

row = sh
while(row >= 1):
    space = 1
    while(space <= row - 1):
        print(' ',end='')
        space = space + 1
    star = 1
    while(star <= row):
        print("* ",end='')
```

```
        star = star + 1
    print()
    row = row - 1
```