

L4 : Patterns1 Practice Questions

1-Tut : Code : Square Pattern

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

Pattern for N = 4

```
4444
4444
4444
4444
```

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

Output format : Pattern in N lines

Constraints

0 <= N <= 50

Sample Input 1:

```
7
```

Sample Output 1:

```
7777777
7777777
7777777
7777777
7777777
7777777
7777777
```

Sample Input 1:

```
6
```

Sample Output 1:

```
666666
666666
666666
666666
666666
666666
```

1. `##` Read input as specified in the question
2. `##` Print the required output in given format
3. `N = int(input())`
4. `i = 1`
5. `while(i <= N):`
6. `j = 1`
7. `while(j <= N):`
8. `print(N,end="")`
9. `j=j+1`
10. `print()`
11. `i = i+ 1`

Square Pattern, Triangular Pattern

2-Tut : Code : Triangular Star Pattern

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

Pattern for N = 4

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

Note : There are no spaces between the stars (*).

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

Output format :

Pattern in N lines

Constraints

$0 \leq N \leq 50$

Sample Input 1: 5

Sample Output 1:

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

Sample Input 2: 6

Sample Output 2:

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

1. `##` Read input as specified in the question
2. `##` Print the required output in given format
3. `N = int(input())`
4. `i = 1`
5. `while(i <= N):`
6. `j = 1`
7. `while(j <= i):`
8. `print("*",end="")`
9. `j = j + 1`
10. `print()`
11. `i = i + 1`

3-Tut : Code : Triangle Number Pattern

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

Pattern for N = 4

```
1
22
333
4444
```

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
22
333
4444
55555
```

Sample Input 2: 6

Sample Output 2:

```
1
22
333
4444
55555
666666
```

1. `## Read input as specified in the question`
2. `## Print the required output in given format`
3. `N = int(input())`
4. `i = 1`
5. `while(i <= N):`
6. `j = 1`
7. `while(j <= i):`
8. `print(i, end="")`
9. `j = j+1`
10. `print()`
11. `i = i + 1`

4-Tut : Code : Reverse Number Pattern

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

Pattern for N = 4

```
1
21
321
```

4321

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

Output format : Pattern in N lines

Constraints

$0 \leq N \leq 50$

Sample Input 1:

5

Sample Output 1:

1

21

321

4321

54321

Sample Input 2:

6

Sample Output 2:

1

21

321

4321

54321

654321

1. `## Read input as specified in the question`
2. `## Print the required output in given format`
3. `N = int(input())`
4. `i = 1`
5. `while(i <= N):`
6. `j = 1`
7. `p = i`
8. `while(j <= i):`
9. `print(p, end="")`
10. `p = p - 1`
11. `j = j+1`
12. `print()`
13. `i = i + 1`

Character Pattern

5-Tut : Code : Character Pattern

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

Pattern for N = 4

A

BC

CDE

DEFG

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

Output format : Pattern in N lines

Constraints

0 <= N <= 13

Sample Input 1:

5

Sample Output 1:

A
BC
CDE
DEFG
EFGHI

Sample Input 2: 6

Sample Output 2:

A
BC
CDE
DEFG
EFGHI
FGHIJK

1. `##` Read input as specified in the question
2. `##` Print the required output in given format
3. `N = int(input())`
4. `i = 1`
5. `while(i <= N):`
6. `startchar = chr(ord('A') + i - 1)`
7. `j = 1`
8. `while(j <= i):`
9. `charp = chr(ord(startchar) + j -1)`
10. `print(charp, end="")`
11. `j = j + 1`
12. `print()`
13. `i = i + 1`

6-Tut : Code : Interesting Alphabets

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Print the following pattern for the given number of rows.

Pattern for N = 5

E
DE
CDE
BCDE
ABCDE

Input format : N (Total no. of rows)

Output format :

Pattern in N lines

Constraints 0 <= N <= 26

Sample Input 1: 8

Sample Output 1:

```
H
GH
FGH
EFGH
DEFGH
CDEFGH
BCDEFGH
ABCDEFGH
```

Sample Input 2: 7

Sample Output 2:

```
G
FG
EFG
DEFG
CDEFG
BCDEFG
ABCDEFG
```

1. `##` Read input as specified in the question.
2. `##` Print output as specified in the question.
3. `##` Read input as specified in the question
4. `##` Print the required output in given format
5. `N = int(input())`
6. `i = 1`
7. `while(i <= N):`
8. `startchar = chr(ord('A') + N - i)`
9. `j = 1`
10. `while(j <= i):`
11. `charp = chr(ord(startchar) + j -1)`
12. `print(charp, end="")`
13. `j = j + 1`
14. `print()`
15. `i = i + 1`

7-Ass : Number Pattern 1

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

Pattern for N = 4

```
1
11
111
1111
```

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

Output format : Pattern in N lines

Sample Input : 5

Sample Output :

```
1
11
111
1111
11111
```

1. **##** Read input as specified in the question.
2. **##** Print output as specified in the question.
3. `N = int(input())`
4. `i = 1`
5. `while(i <= N):`
6. `j = 1`
7. `while(j <= i):`
8. `print(1, end="")`
9. `j = j + 1`
10. `print()`
11. `i = i + 1`

8-Ass : Number Pattern 2

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

Pattern for N = 4

```
1
11
202
3003
```

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

Constraints:

`1 <= n <= 50`

Output format : Pattern in N lines

Sample Input : 5

Sample Output :

```
1
11
202
3003
40004
```

1. **##** Read input as specified in the question.
2. **##** Print output as specified in the question.
3. `N = int(input())`
4. `i = 1`
5. `while(i <= N):`
6. `j = 1`
7. `while(j <= i):`
8. `if(i == 1):`
9. `print(1,end="")`
10. `elif(j == 1 or j == i):`

```

11.         print(i-1, end=")
12.     else:
13.         print(0,end = ")
14.     j = j + 1
15.     print()
16.     i = i + 1

```

9-Ass: Number Pattern 3

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

Pattern for N = 4

```

1
11
121
1221

```

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

Output format : Pattern in N lines

Sample Input : 5

Sample Output :

```

1
11
121
1221
12221

```

```

1.  ## Read input as specified in the question.
2.  ## Print output as specified in the question.
3.  N = int(input())
4.  i = 1
5.  while( i <= N):
6.      j = 1
7.      while(j <= i):
8.          if(i == 1):
9.              print(1,end=")
10.         elif(j == 1 or j == i):
11.             print(1, end=")
12.         else:
13.             print(2,end = ")
14.         j = j + 1
15.     print()
16.     i = i + 1

```

10-Ass : Number Pattern

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

Pattern for N = 4

```

1234

```


123
12
1

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

Output format : Pattern in N lines

Sample Input : 5

Sample Output :

12345
1234
123
12
1

1. `##` Read input as specified in the question.
2. `##` Print output as specified in the question.
3. `N = int(input())`
4. `i = 1`
5. `while(i <= N):`
6. `j = 1`
7. `while(j <= N-i+1):`
8. `print(j,end="")`
9. `j = j + 1`
10. `print()`
11. `i = i + 1`

11-Ass: Alpha Pattern

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

Pattern for N = 3

A
BB
CCC

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

Output format : Pattern in N lines

Constraints

`0 <= N <= 26`

Sample Input 1: 7

Sample Output 1:

A
BB
CCC
DDDD
EEEE
FFFFF
GGGGGG

Sample Input 2: 6

Sample Output 2:

A

BB

CCC

DDDD

EEEE

FFFFF

1. `## Read input as specified in the question.`
2. `## Print output as specified in the question.`
3. `N = int(input())`
4. `i = 1`
5. `while(i <= N):`
6. `j = 1`
7. `startchar = chr(ord('A')+i-1)`
8. `while(j <= i):`
9. `print(startchar,end="")`
10. `j = j + 1`
11. `print()`
12. `i = i + 1`