**Day-01**

**15-03-2025**

**==================**

Assignment:

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1) Write a python program to print multiplication tables from the given range of numbers.

Patterns:

======

-> Three types of patterns:

 1) Star Patterns/Asterisk Patterns

 2) Number Patterns

 3) Character Patterns

\* 1 a

\* \* 1 2 a b

\* \* \* 1 2 3 a b c

\* \* \* \* 1 2 3 4 a b c d

Star pattern Number Pattern character pattern

**Star Patterns:**

**-----------------**

**Pattern-1:**

**----------**

**"""**

**\* \* \* \***

**\* \* \* \***

**\* \* \* \***

**\* \* \* \***

**the above pattern is called as "Square Pattern" with stars**

**"""**

rows = int(input("Enter the number of rows:"))

for i in range(1,rows+1):

 for j in range(1,rows+1):

 print("\*",end = "\t")

 print()

**Pattern-2:**

**----------**

**"""**

**\* \* \* \* \***

**\* \* \* \* \***

**\* \* \* \* \***

**Write a logic using python to print above pattern**

**"""**

rows = int(input("Enter the number of rows:"))

cols = int(input("Enter the number of columns:"))

for row in range(1,rows+1):

 for col in range(1,cols+1):

 print("\*",end = "\t")

 print()

**Pattern-3:**

**-----------**

**"""**

**\***

**\* \***

**\* \* \***

**\* \* \* \***

**\* \* \* \* \***

**Write a logic using python to print the above pattern.**

**(Right-faced Right-angled Triangle)**

**"""**

rows = int(input("Enter the number of rows:"))

for row in range(1,rows + 1):

 for col in range(1,row + 1):

 print("\*",end = "\t")

 print()

**Pattern-4:**

**----------**

**"""**

**\* \* \* \* \***

**\* \* \* \***

**\* \* \***

**\* \***

**\***

**Write a logic for the above pattern.**

**(Inverted Pyramid/Inverted Right Angled Triangle)**

**"""**

rows = int(input("Enter number of rows:")) # 6

for r in range(rows,0,-1): # 6 5 4 3 2 1

 for c in range(1,r+1):

 print("\*",end = "\t")

 print()

**Day-02**

**17-03-2025**

**=====================**

**Pattern-5**

**------------**

"""

 \*

 \* \*

 \* \* \*

\* \* \* \*

Write a python program to print the above pattern.

"""

rows = 5

for r in range(1,rows+1):

 for s in range(1,2\*(rows - r)+1):

 print(" ",end = "")

 for c in range(1,r+1):

 print("\* ",end = "")

 print()

**Pattern-6:**

**-------------**

"""

\* \* \* \* \*

\* \*

\* \*

\* \*

\* \* \* \* \*

Hallow Square

Write a program in python to print the above pattern.

"""

n = 5

for i in range(1,n+1):

 for j in range(1,n+1):

 if i == 1 or i == n or j == 1 or j == n:

 print("\* ",end = "")

 else:

 print(" ",end = " ")

 print()

**Pattern-7:**

**------------**

"""

 \*

 \* \* \*

 \* \* \* \* \*

 \* \* \* \* \* \* \*

 \* \* \* \* \* \* \* \* \*

\* \* \* \* \* \* \* \* \* \* \*

full pyramid

Write a python program to print the above pattern.

"""

n = 6

for r in range(1,n+1):

 for s in range(1,2\*(n-r)+1):

 print(" ",end = "")

 for c in range(1,(2\*r - 1)+1):

 print("\* ",end = "")

 print()

**Pattern-8:**

**-------------**

"""

\*

 \*

 \*

 \*

 \*

 \*

Left diagonal star pattern

"""

n = 7

for i in range(1,n+1):

 for j in range(1,i+1):

 if i == j:

 print("\* ",end = "")

 else:

 print(" ",end = "")

 print()

**Day-03**

**18-03-2025**

**=================**

**Pattern-9:**

**-------------**

"""

\* \*

 \* \*

 \* \*

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 \* \*

\* \*

Write a python program to print the above pattern (cross pattern with stars)

"""

n = 7

for i in range(1,n+1):

 for j in range(1,n+1):

 if (i == j or i+j == (n + 1)):

 print("\* ",end = "")

 else:

 print(" ",end = "")

 print()

**Pattern-10:**

**--------------**

"""

\* \* \* \* \*

 \* \* \* \*

 \* \* \*

 \* \*

 \*

Write a python program to print the above inverted pyramid.

"""

n = 8

for i in range(1,n+1):

 for j in range(1,2\*(i-1)+1):

 print(" ",end = "")

 for k in range(1,n-i+1+1):# range(1,8+1)

 print("\* ",end = "")

 print()

**Pattern-11:**

**--------------**

"""

\* \* \* \* \* \* \* \*

 \* \* \* \* \* \* \*

 \* \* \* \* \* \*

 \* \* \* \* \*

 \* \* \* \*

 \* \* \*

 \* \*

 \*

Write a python program to print the above inverted pyramid.

"""

n = 8

for i in range(1,n+1):

 for j in range(1,(i-1)+1):

 print(" ",end = "")

 for k in range(1,n-i+1+1):# range(1,8+1)

 print("\* ",end = "")

 print()

**Pattern-12:**

**-------------**

"""

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 \* \* \*

 \*

Rhombus pattern using python

"""

n = 6

for i in range(1,n+1):

 for j in range(1,(2\*(n-i))+1):

 print(" ",end = "")

 for k in range(1,(2\*i-1)+1):

 print("\* ",end = "")

 print()

for a in range(1,n+1):

 for b in range(1,(2\*a)+1):

 print(" ",end = "")

 for c in range(1,(2\*(n - a-1)+1)+1):

 print("\* ",end = "")

 print()

**Day-04**

**20-03-2025**

**================**

**Number Patterns:**

**---------------------**

Pattern-1:

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"""

1

2 2

3 3 3

4 4 4 4

5 5 5 5 5

"""

n = 5

for i in range(1,n+1):

 for j in range(1,i+1):

 print(i,end = "\t")

 print()

Pattern-2:

-----------

"""

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

"""

n = 7

for i in range(1,n+1):

 for j in range(1,i+1):

 print(j,end = "\t")

 print()

Pattern-3:

-----------

"""

1 2 3 4 5

1 2 3 4

1 2 3

1 2

1

"""

n = 8

for i in range(n,0,-1):

 for j in range(1,i+1):

 print(j,end = "\t")

 print()

**# Write a python program to print floyd's triangle.**

n = int(input("Enter number of rows:")) # 5

num = 1

for i in range(1,n+1):

 for j in range(1,i+1):

 print(num,end = "\t")

 num = num + 1

 print()