Learn 100+ Python Pattern Printing Programs In Simple Way

To Improve Your Programming Skills and Logical Thinking
(Square, Triangle, Pyramid, Diamond, Butterfly and Many More)

UNIT-1: Square Pattern Printing Programs

Pattern-1: To print given number of *s in a row

---

test.py:

```
1) n=int(input('Enter n value:'))
2) for i in range(n):
3)     print('*',end=' ')
```

```
Enter n value:5
* * * * *
```

Pattern-2: To print square pattern with * symbols

---

test.py:

```
1) n=int(input('Enter No Of Rows:'))
2) for i in range(n):
3)     print('* '*n)
```

output:

Enter No Of Rows:5

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

Pattern-3: To print square pattern with provided fixed digit

---

test.py:

```
1)  n=int(input('Enter No Of Rows:'))
2)  for i in range(n):
3)      print((str(n)+' ')*n)
```

output:

```
Enter No Of Rows:5
5 5 5 5 5
5 5 5 5 5
5 5 5 5 5
5 5 5 5 5
5 5 5 5 5
```

Pattern-4: To print square pattern with provided fixed digit in every row

---

test.py:

```
1)  n=int(input('Enter No Of Rows:'))
2)  for i in range(n):
3)      print((str(i+1)+' ')*n)
```

output:

```
Enter No Of Rows:5
1 1 1 1 1
2 2 2 2 2
3 3 3 3 3
4 4 4 4 4
5 5 5 5 5
```

Pattern-5: To print square pattern with fixed alphabet symbol

---

test.py:

```
1)  n=int(input('Enter No Of Rows:'))
2)  for i in range(n):
3)      print(('A ')*n)
```

output:

Enter No Of Rows:5

```
A  A  A  A  A
A  A  A  A  A
A  A  A  A  A
A  A  A  A  A
A  A  A  A  A
```

Pattern-6: To print square pattern with alphabet symbols

---

test.py:

```
1)  n=int(input('Enter No Of Rows:'))
2)  for i in range(n):
3)      print((chr(65+i)+' ')*n)
```

output:

Enter No Of Rows:5

```
A  A  A  A  A
B  B  B  B  B
C  C  C  C  C
D  D  D  D  D
E  E  E  E  E
```

Pattern-7: To print square pattern with digits

---

test.py:

```
1)  n=int(input('Enter No Of Rows:'))
2)  for i in range(n):
3)      for j in range(n):
4)          print(str(j+1),end=' ')
5)      print()
```

output:

Enter No Of Rows:5

```
1 2 3 4 5
1 2 3 4 5
1 2 3 4 5
1 2 3 4 5
1 2 3 4 5
```

Pattern-8: To print square pattern with alphabet symbols in dictionary order

---

test.py:

```
1)  n=int(input('Enter No Of Rows:'))
2)  for i in range(n):
3)      for j in range(n):
4)          print(chr(65+j),end=' ')
5)      print()
```

output:

Enter No Of Rows:5

```
A B C D E
A B C D E
A B C D E
A B C D E
A B C D E
```

Pattern-9: To print square pattern with digits in descending order

---

test.py:

```
1)  n=int(input('Enter No Of Rows:'))
2)  for i in range(n):
3)      print((str(n-i)+' ')*n)
```

output:

Enter No Of Rows:5

```
5 5 5 5 5
4 4 4 4 4
3 3 3 3 3
2 2 2 2 2
1 1 1 1 1
```

Pattern-10: To print square pattern with alphabets in reverse of dictionary order

---

test.py:

```
1)  n=int(input('Enter No Of Rows:'))
2)  for i in range(n):
3)      print((chr(64+n-i)+' ')*n)
```

output:

Enter No Of Rows:5

```
E E E E E
D D D D D
C C C C C
B B B B B
A A A A A
```

Pattern-11: To print square pattern with digits in descending order

---

test.py:

```
1)  n=int(input('Enter No Of Rows:'))
2)  for i in range(n):
3)      for j in range(n):
4)          print(n-j,end=' ')
5)      print()
```

output:

Enter No Of Rows:5

```
5 4 3 2 1
5 4 3 2 1
5 4 3 2 1
5 4 3 2 1
5 4 3 2 1
```

Pattern-12: To print square pattern with alphabets in reverse of dictionary order

---

test.py:

```
1)  n=int(input('Enter No Of Rows:'))
2)  for i in range(n):
3)      for j in range(n):
4)          print(chr(64+n-j),end=' ')
5)      print()
```

output:

Enter No Of Rows:5

```
E D C B A
E D C B A
E D C B A
E D C B A
E D C B A
```

UNIT-2: Right Angle Triangle Pattern Printing Programs

Pattern-13: To print Right Angle Triangle pattern with * symbols

---

test.py:

```
1)  n=int(input('Enter No Of Rows:'))
2)  for i in range(n):
3)      for j in range(i+1):
4)          print('*',end=' ')
5)      print()
```

output:

Enter No Of Rows:5

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

Pattern-14: To print Right Angle Triangle pattern with fixed digit in every row

---

test.py:

```
1)  n=int(input('Enter No Of Rows:'))
2)  for i in range(n):
3)      for j in range(i+1):
4)          print(i+1,end=' ')
5)      print()
```

2nd way:

```
1)  n=int(input('Enter No Of Rows:'))
2)  for i in range(n):
```

```
3)      print((str(i+1)+' ')*(i+1))
```

output:
Enter No Of Rows:5

```
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
```

Pattern-15: To print Right Angle Triangle pattern with fixed alphabet symbol in every row

---

test.py:

```
1)  n=int(input('Enter No Of Rows:'))
2)  for i in range(n):
3)      print((chr(65+i)+' ')*(i+1))
```

output:
Enter No Of Rows:5

```
A
B B
C C C
D D D D
E E E E E
```

Pattern-16: To print Right Angle Triangle pattern with digits in ascending order in every row

---

test.py:

```
1)  n=int(input('Enter No Of Rows:'))
2)  for i in range(n):
3)      for j in range(i+1):
4)          print(j+1,end=' ')
5)      print()
```

output:
Enter No Of Rows:5

```
1
1  2
1  2  3
1  2  3  4
1  2  3  4  5
```

Pattern-17: To print Right Angle Triangle pattern with alphabet symbols in dictionary order in every row

---

test.py:

```
1)  n=int(input('Enter No Of Rows:'))
2)  for i in range(n):
3)      for j in range(i+1):
4)          print(chr(65+j),end=' ')
5)      print()
```

output:
Enter No Of Rows:5

```
A
A  B
A  B  C
A  B  C  D
A  B  C  D  E
```

Pattern-18: To print Right Angle Triangle pattern with digits in descending order in every row

---

test.py:

```
1)  n=int(input('Enter No Of Rows:'))
2)  for i in range(n):
3)      for j in range(i+1):
4)          print(n-j,end=' ')
5)      print()
```

output:
Enter No Of Rows:5

```
5
5 4
5 4 3
5 4 3 2
5 4 3 2 1
```

Pattern-19: To print Right Angle Triangle pattern with alphabet symbols in reverse of dictionary order in every row

---

test.py:

```
1) n=int(input('Enter No Of Rows:'))
2) for i in range(n):
3)     for j in range(i+1):
4)         print(chr(64+n-j),end=' ')
5)     print()
```

output:
Enter No Of Rows:5

```
E
E D
E D C
E D C B
E D C B A
```

UNIT-3: Inverted Right Angle Triangle Pattern Printing Programs

Pattern-20: To print Inverted Right Angle Triangle pattern with * symbols

---

test.py:

```
1) n=int(input('Enter No Of Rows:'))
2) for i in range(n):
3)     print('* '*(n-i))
```

output:

Enter No Of Rows:5

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

Pattern-21: To print Inverted Right Angle Triangle pattern with fixed digit in every row

---

test.py:

```
1) n=int(input('Enter No Of Rows:'))
2) for i in range(n):
3)     print((str(i+1)+' ')*(n-i))
```

output:

Enter No Of Rows:5

```
1 1 1 1 1
2 2 2 2
3 3 3
4 4
5
```

Pattern-22: To print Inverted Right Angle Triangle pattern with fixed alphabet symbol in every row

---

test.py:

```
1) n=int(input('Enter No Of Rows:'))
2) for i in range(n):
3)     print((chr(65+i)+' ')*(n-i))
```

output:

Enter No Of Rows:5

```
A A A A A
B B B B
C C C
D D
E
```

Pattern-23: To print Inverted Right Angle Triangle pattern with fixed digit in every row

---

test.py:

```
1) n=int(input('Enter No Of Rows:'))
2) for i in range(n):
3)     print((str(n-i)+' ')*(n-i))
```

output:

Enter No Of Rows:5

```
5 5 5 5 5
4 4 4 4
3 3 3
2 2
1
```

Pattern-24: To print Inverted Right Angle Triangle pattern with fixed alphabet symbol in every row

---

test.py:

```
1) n=int(input('Enter No Of Rows:'))
2) for i in range(n):
3)     print((chr(64+n-i)+' ')*(n-i))
```

output:

Enter No Of Rows:5

```
E  E  E  E  E
D  D  D  D
C  C  C
B  B
A
```

Pattern-25: To print Inverted Right Angle Triangle pattern with digits in ascending order in every row

---

test.py:

```
1) n=int(input('Enter No Of Rows:'))
2) for i in range(n):
3)     for j in range(n-i):
4)         print(j+1,end=' ')
5)     print()
```

output:

Enter No Of Rows:5

```
1  2  3  4  5
1  2  3  4
1  2  3
1  2
1
```

Pattern-26: To print Inverted Right Angle Triangle pattern with alphabet symbols in dictionary order in every row

---

test.py:

```
1)  n=int(input('Enter No Of Rows:'))
2)  for i in range(n):
3)      for j in range(n-i):
4)          print(chr(65+j),end=' ')
5)      print()
```

output:

Enter No Of Rows:5

```
A B C D E
A B C D
A B C
A B
A
```

Pattern-27: To print Inverted Right Angle Triangle pattern with digits in descending order in every row

---

test.py:

```
1)  n=int(input('Enter No Of Rows:'))
2)  for i in range(n):
3)      for j in range(n-i):
4)          print(n-j,end=' ')
5)      print()
```

output:

Enter No Of Rows:5

```
5 4 3 2 1
5 4 3 2
5 4 3
5 4
5
```

Pattern-28: To print Inverted Right Angle Triangle pattern with alphabet symbols in reverse of dictionary order in every row

---

test.py:

```
1)  n=int(input('Enter No Of Rows:'))
2)  for i in range(n):
3)      for j in range(n-i):
4)          print(chr(64+n-j),end=' ')
5)      print()
```

output:

Enter No Of Rows:5

```
E D C B A
E D C B
E D C
E D
E
```

UNIT-4: Pyramid Pattern Printing Programs

Pattern-29: To print Pyramid pattern with * symbols

---

test.py:

```
1) n=int(input('Enter Number of rows:'))
2) for i in range(n):# 0,1,2,3
3)     print((' '*(n-i-1))+ ('* ')*(i+1))
```

output:

Enter number of rows:5

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

Pattern-30: To print Pyramid pattern with fixed digit in every row

---

test.py:

```
1) n=int(input('Enter Number of Rows:'))
2) for i in range(n):# 0,1,2,3
3)     print((' '*(n-i-1))+ (str(i+1)+' ')*(i+1))
```

output:

Enter Number of Rows:5

```
    1
   2 2
  3 3 3
 4 4 4 4
5 5 5 5 5
```



Pattern-31: To print Pyramid pattern with fixed alphabet symbol in every row

---

test.py:

```
1) n=int(input('Enter Number of Rows:'))
2) for i in range(n):# 0,1,2,3
3)     print((' '*(n-i-1))+ (chr(65+i)+' ')*(i+1))
```

output:

Enter Number of Rows:5

```
    A
   B B
  C C C
 D D D D
E E E E E
```

Pattern-32: To print Pyramid pattern with digits in ascending order in every row

---

test.py:

```
1) n=int(input('Enter Number of Rows:'))
2) for i in range(n):# 0,1,2,3
3)     print((' '*(n-i-1)),end='')
4)     for j in range(i+1):
5)         print(j+1,end=' ')
6)     print()
```

output:

Enter Number of Rows:5

```
    1
   1 2
  1 2 3
 1 2 3 4
1 2 3 4 5
```



Pattern-33:To print Pyramid pattern with alphabet symbols in dictionary order in every row

---

test.py:

```
1)  n=int(input('Enter Number of Rows:'))
2)  for i in range(n):# 0,1,2,3
3)      print((' '*(n-i-1)),end='')
4)      for j in range(i+1):
5)          print(chr(65+j),end=' ')
6)      print()
```

output:

```
Enter Number of Rows:5
        A
      A B
    A B C
  A B C D
A B C D E
```

Pattern-34:To print Pyramid pattern with digits in descending order in every row

---

test.py:

```
1)  n=int(input('Enter Number of Rows:'))
2)  for i in range(n):# 0,1,2,3
3)      print((' '*(n-i-1)),end='')
4)      for j in range(i+1):
5)          print(n-j,end=' ')
6)      print()
```

output:

```
Enter Number of Rows:5
        5
      5 4
    5 4 3
  5 4 3 2
5 4 3 2 1
```

Pattern-35:To print Pyramid pattern with alphabet symbols in reverse of dictionary order in every row

---

test.py:

```
1)  n=int(input('Enter Number of Rows:'))
2)  for i in range(n):# 0,1,2,3
3)      print((' '*(n-i-1)),end='')
4)      for j in range(i+1):
5)          print(chr(64+n-j),end=' ')
6)      print()
```

output:

```
Enter Number of Rows:5
        E
      E D
    E D C
  E D C B
E D C B A
```

UNIT-5: Inverted Pyramid Pattern Printing Programs

Pattern-36: To print Inverted Pyramid Pattern with * symbols

---

test.py:

```
1) n=int(input('Enter Number of Rows:'))
2) for i in range(n): #0,1,2,3
3)     print(' '*i+'* '*(n-i))
```

output:

Enter Number of Rows:5

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

Pattern-37: To print Inverted Pyramid Pattern with fixed digit in every row

---

test.py:

```
1) n=int(input('Enter Number of Rows:'))
2) for i in range(n): #0,1,2,3
3)     print(' '*i+(str(i+1)+' ')*(n-i))
```

output:

Enter Number of Rows:5

```
1 1 1 1 1
 2 2 2 2
  3 3 3
   4 4
    5
```

Pattern-38: To print Inverted Pyramid Pattern with fixed alphabet symbol in every row

---

test.py:

```
1) n=int(input('Enter Number of Rows:'))
2) for i in range(n): #0,1,2,3
3)     print(' '*i+(chr(65+i)+' ')*(n-i))
```

output:

Enter Number of Rows:5

```
A A A A A
 B B B B
  C C C
   D D
    E
```

Pattern-39: To print Inverted Pyramid Pattern with digits in ascending order in every row

---

test.py:

```
1) n=int(input('Enter Number of Rows:'))
2) for i in range(n): #0,1,2,3
3)     print(' '*i,end='')
4)     for j in range(n-i):
5)         print(j+1,end=' ')
6)     print()
```

output:

Enter Number of Rows:5

```
1 2 3 4 5
 1 2 3 4
  1 2 3
   1 2
    1
```

Pattern-40:To print Inverted Pyramid Pattern with alphabet symbols in dictionary order in every row

---

test.py:

```
1)  n=int(input('Enter Number of Rows:'))
2)  for i in range(n): #0,1,2,3
3)      print(' '*i,end='')
4)      for j in range(n-i):
5)          print(chr(65+j),end=' ')
6)      print()
```

output:

Enter Number of Rows:5

```
A B C D E
  A B C D
    A B C
      A B
        A
```

Pattern-41:To print Inverted Pyramid Pattern with digits in descending order in every row

---

test.py:

```
1)  n=int(input('Enter Number of Rows:'))
2)  for i in range(n): #0,1,2,3
3)      print(' '*i,end='')
4)      for j in range(n-i):
5)          print(n-j,end=' ')
6)      print()
```

output:

Enter Number of Rows:5

```
5 4 3 2 1
 5 4 3 2
  5 4 3
   5 4
    5
```

Pattern-42:To print Inverted Pyramid Pattern with alphabet symbols in reverse of dictionary order in every row

---

test.py:

```
1) n=int(input('Enter Number of Rows:'))
2) for i in range(n): #0,1,2,3
3)     print(' '*i,end='')
4)     for j in range(n-i):
5)         print(chr(64+n-j),end=' ')
6)     print()
```

output:

Enter Number of Rows:5

```
E D C B A
 E D C B
  E D C
   E D
    E
```

UNIT-6: Diamond Pattern Printing Programs

Pattern-43: To print Diamond Pattern with * symbols

---

test.py:

```
1)  n=int(input('Enter Number of Rows:'))
2)  for i in range(n): #0,1,2,3
3)      print(' '*i,end='')
4)      for j in range(n-i):
5)          print(chr(64+n-j),end=' ')
6)      print()
```

output:

```
Enter n Value:5
        *
      *   *
    *   *   *
  *   *   *   *
*   *   *   *   *
  *   *   *   *
    *   *   *
      *   *
        *
```

Pattern-44: To print Diamond Pattern with fixed digit in every row

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):#0,1,2,3
3)      print(' '*(n-i-1)+(str(i+1)+' ')*(i+1))
4)  for i in range(n-1):#0,1,2
5)      print(' '*(i+1)+(str(n-i-1)+' ')*(n-i-1))
```

output:

```
Enter n Value:5
```

```
    1
   2 2
  3 3 3
 4 4 4 4
5 5 5 5 5
 4 4 4 4
  3 3 3
   2 2
    1
```

Pattern-45: To print Diamond Pattern with fixed alphabet symbol in every row

---

test.py:

```
1) n=int(input('Enter n Value:'))
2) for i in range(n):#0,1,2,3
3)     print(' '*(n-i-1)+(chr(65+i)+' ')*(i+1))
4) for i in range(n-1):#0,1,2
5)     print(' '*(i+1)+(chr(63+n-i)+' ')*(n-i-1))
```

output:

Enter n Value:5

```
    A
   B B
  C C C
 D D D D
E E E E E
 D D D D
  C C C
   B B
    A
```

Pattern-46: To print Diamond Pattern with digits in ascending order in every row

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):#0,1,2,3
3)      print(' '*(n-i-1),end='')
4)      for j in range(i+1):
5)          print(j+1,end=' ')
6)      print()
7)  for i in range(n-1):#0,1,2
8)      print(' '*(i+1),end='')
9)      for j in range(n-i-1):
10)         print(j+1,end=' ')
11)     print()
```

output:

Enter n Value:5

```
        1
      1  2
    1  2  3
  1  2  3  4
1  2  3  4  5
  1  2  3  4
    1  2  3
      1  2
        1
```

Pattern-47:To print Diamond Pattern with alphabet symbols in dictionary order in every row

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):#0,1,2,3
3)      print(' '*(n-i-1),end='')
4)      for j in range(i+1):
5)          print(chr(65+j),end=' ')
6)      print()
7)  for i in range(n-1):#0,1,2
8)      print(' '*(i+1),end='')
9)      for j in range(n-i-1):
10)         print(chr(65+j),end=' ')
11)     print()
```

output:

Enter n Value:5

```
    A
   A B
  A B C
 A B C D
A B C D E
 A B C D
  A B C
   A B
    A
```

Pattern-48:To print Diamond Pattern with digits in descending order in every row

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):#0,1,2,3
3)      print(' '*(n-i-1),end='')
4)      for j in range(i+1):
5)          print(n-j,end=' ')
6)      print()
7)  for i in range(n-1):#0,1,2
8)      print(' '*(i+1),end='')
9)      for j in range(n-i-1):
10)         print(n-j,end=' ')
11)     print()
```

output:

Enter n Value:5

```
        5
      5 4
    5 4 3
  5 4 3 2
5 4 3 2 1
  5 4 3 2
    5 4 3
      5 4
        5
```

Pattern-49:To print Diamond Pattern with alphabet symbols in reverse of dictionary order in every row

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):#0,1,2,3
3)      print(' '*(n-i-1),end='')
4)      for j in range(i+1):
5)          print(chr(64+n-j),end=' ')
6)      print()
7)  for i in range(n-1):#0,1,2
8)      print(' '*(i+1),end='')
9)      for j in range(n-i-1):
10)         print(chr(64+n-j),end=' ')
11)     print()
```

output:

Enter n Value:5

```
        E
      E D
    E D C
  E D C B
E D C B A
  E D C B
    E D C
      E D
        E
```

UNIT-7: Right Half Diamond Pattern Printing Programs

Pattern-50: To print Right Half Diamond Pattern with * symbols

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      print('* '*(i+1))
4)  for i in range(n-1):
5)      print('* '*(n-i-1))
```

output:

Enter n Value:5

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

Pattern-51: To print Right Half Diamond Pattern with fixed digit in every row

---

test.py:

```
1) n=int(input('Enter n Value:'))
2) for i in range(n):
3)     print((str(i+1)+' ')*(i+1))
4) for i in range(n-1):
5)     print((str(n-i-1)+' ')*(n-i-1))
```

output:

Enter n Value:5

```
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
4 4 4 4
3 3 3
2 2
1
```

Pattern-52: To print Right Half Diamond Pattern with fixed alphabet symbol in every row

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      print((chr(65+i)+' ')*(i+1))
4)  for i in range(n-1):
5)      print((chr(63+n-i)+' ')*(n-i-1))
```

output:

Enter n Value:5

```
A
B B
C C C
D D D D
E E E E E
D D D D
C C C
B B
A
```

Pattern-53: To print Right Half Diamond Pattern with digits in ascending order in every row

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      for j in range(i+1):
4)          print(j+1,end=' ')
5)      print()
6)  for i in range(n-1):
7)      for j in range(n-i-1):
8)          print(j+1,end=' ')
9)      print()
```

output:

Enter n Value:5

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
1 2 3 4
1 2 3
1 2
1
```

Pattern-54:To print Right Half Diamond Pattern with alphabet symbols in dictionary order in every row

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      for j in range(i+1):
4)          print(chr(65+j),end=' ')
5)      print()
6)  for i in range(n-1):
7)      for j in range(n-i-1):
8)          print(chr(65+j),end=' ')
9)      print()
```

output:

Enter n Value:5

```
A
A B
A B C
A B C D
A B C D E
A B C D
A B C
A B
A
```

Pattern-55:To print Right Half Diamond Pattern with digits in descending order in every row

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      for j in range(i+1):
4)          print(n-j,end=' ')
5)      print()
6)  for i in range(n-1):
7)      for j in range(n-i-1):
8)          print(n-j,end=' ')
9)      print()
```

output:

Enter n Value:5

```
5
5 4
5 4 3
5 4 3 2
5 4 3 2 1
5 4 3 2
5 4 3
5 4
5
```

Pattern-56:To print Right Half Diamond Pattern with alphabet symbols in reverse of dictionary order in every row

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      for j in range(i+1):
4)          print(chr(64+n-j),end=' ')
5)      print()
6)  for i in range(n-1):
7)      for j in range(n-i-1):
8)          print(chr(64+n-j),end=' ')
9)      print()
```

output:

Enter n Value:5

```
E
E D
E D C
E D C B
E D C B A
E D C B
E D C
E D
E
```

UNIT-8: Left Half Diamond Pattern Printing Programs

Pattern-57: To print Left Half Diamond Pattern with * symbols

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      print('  '*(n-i-1)+'* '*(i+1))
4)
5)  for i in range(n-1):
6)      print('  '*(i+1)+'* '*(n-i-1))
```

output:

```
Enter n Value:5
        *
      * *
    * * *
  * * * *
* * * * *
  * * * *
    * * *
      * *
        *
```

Pattern-58: To print Left Half Diamond Pattern with fixed digit in every row

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      print('  '*(n-i-1)+(str(i+1)+' ')*(i+1))
4)
5)  for i in range(n-1):
6)      print('  '*(i+1)+(str(n-i-1)+' ')*(n-i-1))
```

output:

Enter n Value:5

```
        1
      2 2
    3 3 3
  4 4 4 4
5 5 5 5 5
  4 4 4 4
    3 3 3
      2 2
        1
```

Pattern-59: To print Left Half Diamond Pattern with fixed alphabet symbol in every row

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      print('  '*(n-i-1)+(chr(65+i)+' ')*(i+1))
4)
5)  for i in range(n-1):
6)      print('  '*(i+1)+(chr(63+n-i)+' ')*(n-i-1))
```

output:

Enter n Value:5

```
        A
      B B
    C C C
  D D D D
E E E E E
  D D D D
    C C C
      B B
        A
```

Pattern-60: To print Left Half Diamond Pattern with digits in ascending order in every row

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      print('  '*(n-i-1),end='')
4)      for j in range(i+1):
5)          print(j+1,end=' ')
6)      print()
7)  for i in range(n-1):
8)      print('  '*(i+1),end='')
9)      for j in range(n-i-1):
10)         print(j+1,end=' ')
11)     print()
```

output:

Enter n Value:5

```
        1
      1 2
    1 2 3
  1 2 3 4
1 2 3 4 5
  1 2 3 4
    1 2 3
      1 2
        1
```

Pattern-61:To print Left Half Diamond Pattern with alphabet symbols in dictionary order in every row

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      print('  '*(n-i-1),end='')
4)      for j in range(i+1):
5)          print(chr(65+j),end=' ')
6)      print()
7)  for i in range(n-1):
8)      print('  '*(i+1),end='')
9)      for j in range(n-i-1):
10)         print(chr(65+j),end=' ')
11)     print()
```

output:

Enter n Value:5

```
        A
      A B
    A B C
  A B C D
A B C D E
  A B C D
    A B C
      A B
        A
```

Pattern-62:To print Left Half Diamond Pattern with digits in descending order in every row

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      print('  '*(n-i-1),end='')
4)      for j in range(i+1):
5)          print(n-j,end=' ')
6)      print()
7)  for i in range(n-1):
8)      print('  '*(i+1),end='')
9)      for j in range(n-i-1):
10)         print(n-j,end=' ')
11)     print()
```

output:

Enter n Value:5

```
        5
      5 4
    5 4 3
  5 4 3 2
5 4 3 2 1
  5 4 3 2
    5 4 3
      5 4
        5
```

Pattern-63:To print Left Half Diamond Pattern with alphabet symbols in reverse of dictionary order in every row

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      print('  '*(n-i-1),end='')
4)      for j in range(i+1):
5)          print(chr(64+n-j),end=' ')
6)      print()
7)  for i in range(n-1):
8)      print('  '*(i+1),end='')
9)      for j in range(n-i-1):
10)         print(chr(64+n-j),end=' ')
11)     print()
```

output:

Enter n Value:5

```
        E
      E D
    E D C
  E D C B
E D C B A
  E D C B
    E D C
      E D
        E
```

UNIT-9: Top Half Hallow Diamond Pattern Printing Programs

Pattern-64: To print Top Half Hallow Diamond Pattern with * symbols

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      print('  '*(n-i-1),end='')
4)      print('* ',end='')
5)      if i>=1:
6)          print('  '*(2*i-1),end='')
7)          print('*',end='')
8)      print()
```

Simplified Version:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      print('  '*(n-i-1)+'* ',end='')
4)      if i>=1:
5)          print('  '*(2*i-1)+'*',end='')
6)      print()
```

output:

```
Enter n Value:5
```

Pattern-65: To print Top Half Hallow Diamond Pattern with fixed digit in every row

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      print('  '*(n-i-1)+str(i+1)+' ',end='')
4)      if i>=1:
5)          print('  '*(2*i-1)+str(i+1),end='')
6)      print()
```

output:

Enter n Value:5

```
        1
      2   2
    3       3
  4           4
5               5
```

Pattern-66: To print Top Half Hallow Diamond Pattern with fixed alphabet symbol in every row

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      print('  '*(n-i-1)+chr(65+i)+' ',end='')
4)      if i>=1:
5)          print('  '*(2*i-1)+chr(65+i),end='')
6)      print()
```

output:

Enter n Value:5

```
        A
      B   B
    C       C
  D           D
E               E
```

Pattern-67: To print Top Half Hollow Diamond Pattern with numbers in descending order

---

test.py:

```
1) n=int(input('Enter n Value:'))
2) for i in range(n):
3)     print('  '*(n-i-1)+str(n-i)+' ',end='')
4)     if i>=1:
5)         print('  '*(2*i-1)+str(n-i),end='')
6)     print()
```

output:

Enter n Value:5

```
        5
      4   4
    3       3
  2           2
1               1
```

Pattern-68:To print Top Half Hollw Diamond Pattern with aplhabet symbols in reverse of dictionary order

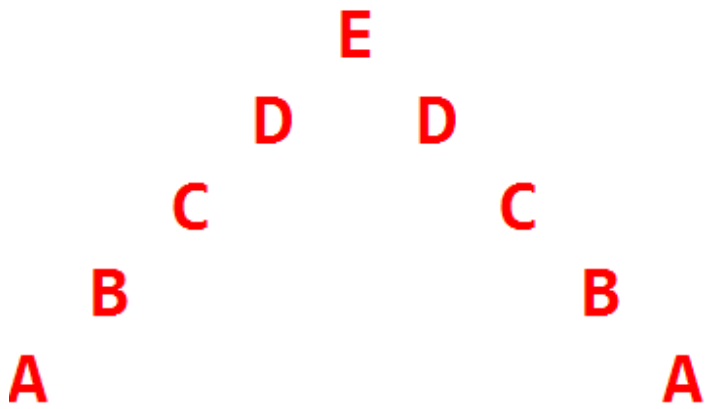
---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      print('  '*(n-i-1)+chr(64+n-i)+' ',end='')
4)      if i>=1:
5)          print('  '*(2*i-1)+chr(64+n-i),end='')
6)      print()
```

output:

Enter n Value:5



UNIT-10: Bottom Half Hallow Diamond Pattern Printing Programs

Pattern-69: To print Bottom Half Hallow Diamond Pattern with * symbols

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      print('  '*i+'* ',end='')
4)      if i!= n-1:
5)          print('  '*(2*n-2*i-3)+'*',end='')
6)      print()
```

output:

```
Enter n Value:5
*                 *
  *             *
    *         *
      *     *
        *
```

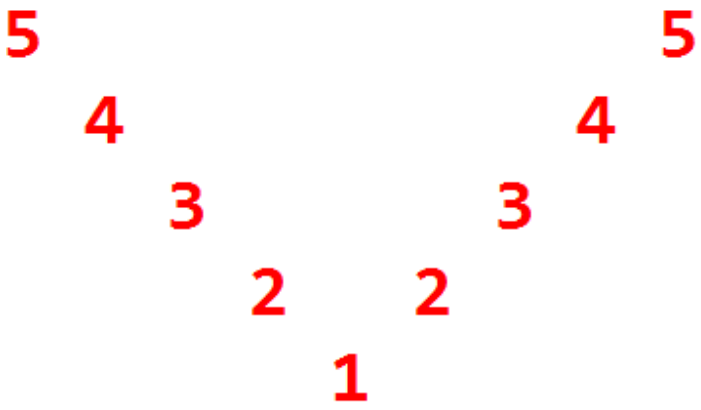
Pattern-70: To print Bottom Half Hallow Diamond Pattern with fixed digit in every row

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      print('  '*i+str(n-i)+' ',end='')
4)      if i!= n-1:
5)          print('  '*(2*n-2*i-3)+str(n-i),end='')
6)      print()
```

output:
Enter n Value:5



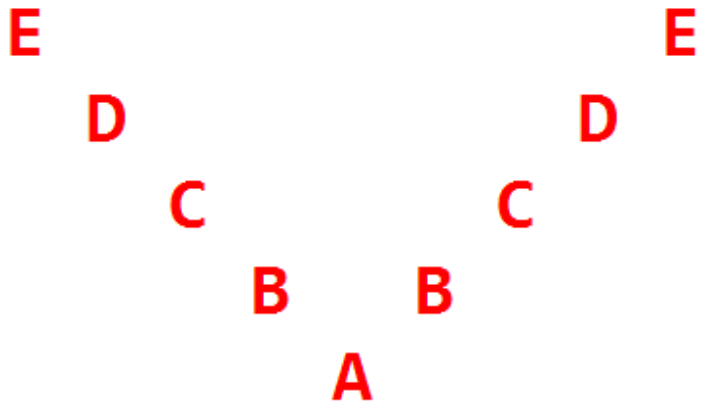
Pattern-71: To print Bottom Half Hallow Diamond Pattern with fixed alphabet symbol in every row

---

test.py:

```
1) n=int(input('Enter n Value:'))
2) for i in range(n):
3)     print('  '*i+chr(64+n-i)+' ',end='')
4)     if i!= n-1:
5)         print('  '*(2*n-2*i-3)+chr(64+n-i),end='')
6)     print()
```

output:
Enter n Value:5



Pattern-72: To print Bottom Half Hollw Diamond Pattern with numbers in descending order

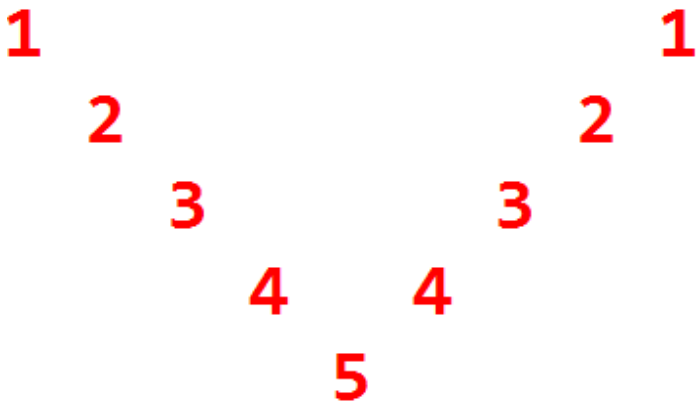
---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      print('  '*i+str(i+1)+' ',end='')
4)      if i!= n-1:
5)          print('  '*(2*n-2*i-3)+str(i+1),end='')
6)      print()
```

output:

Enter n Value:5



Pattern-73:To print Bottom Half Hollw Diamond Pattern with aplhabet symbols in reverse of dictionary order

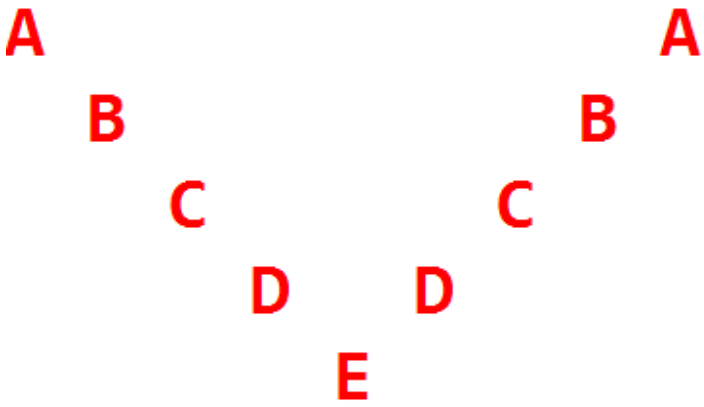
---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n):
3)      print('  '*i+chr(65+i)+' ',end='')
4)      if i!= n-1:
5)          print('  '*(2*n-2*i-3)+chr(65+i),end='')
6)      print()
```

output:

Enter n Value:5



UNIT-11: Hallow Diamond Pattern Printing Programs

Pattern-74:To print Hollw Diamond Pattern with * Symbols

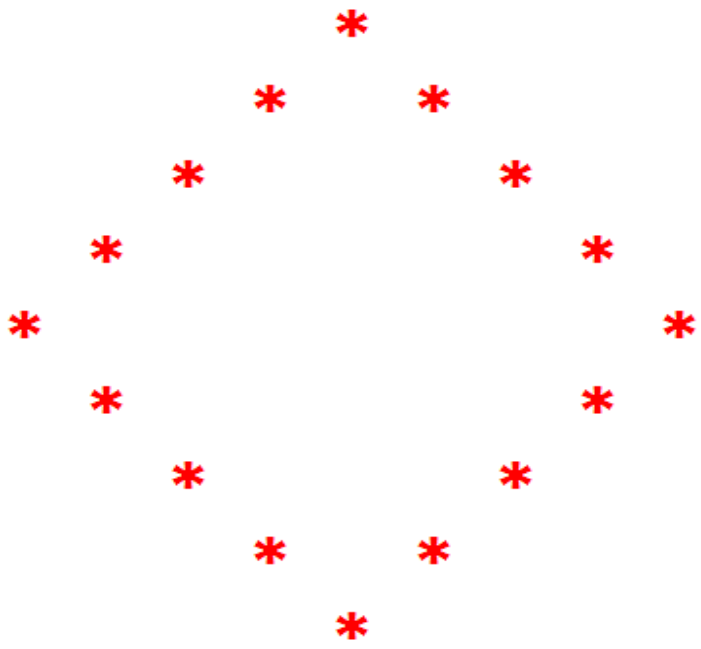
---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n): #0,1,2,3
3)      print('  '*(n-i-1)+'* ',end='')
4)      if i!=0: # if i>0: or if i>=1:
5)          print('  '*(2*i-1)+'*',end='')
6)      print()
7)  for i in range(n-1): #0,1,2
8)      print('  '*(i+1)+'* ',end='')
9)      if i!=(n-2):
10)         print('  '*(2*n-2*i-5)+'*',end='')
11)     print()
```

output:

Enter n Value:5



Pattern-75:To print Hollw Diamond Pattern with digits in Ascending Order

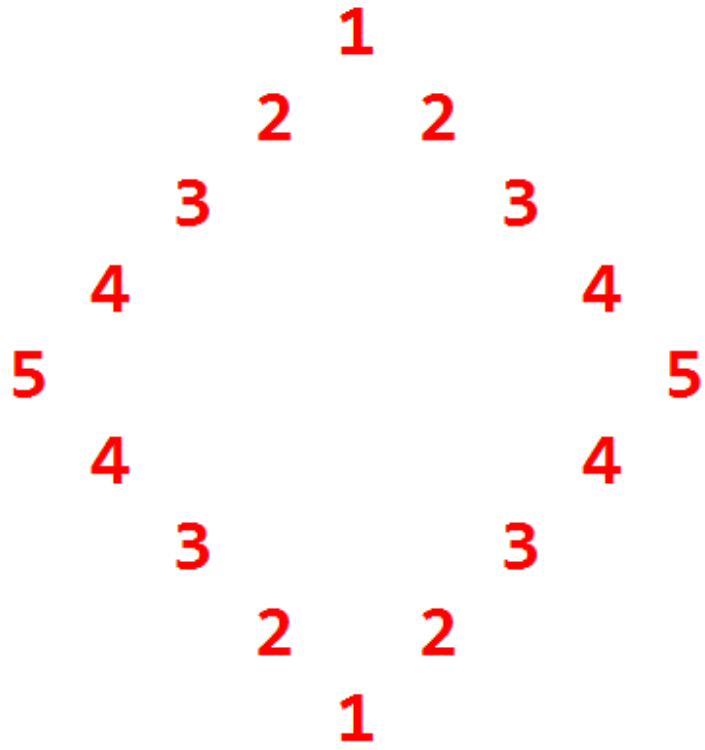
---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n): #0,1,2,3
3)      print('  '*(n-i-1)+str(i+1)+' ',end='')
4)      if i!=0: # if i>0: or if i>=1:
5)          print('  '*(2*i-1)+str(i+1),end='')
6)      print()
7)  for i in range(n-1): #0,1,2
8)      print('  '*(i+1)+str(n-i-1)+' ',end='')
9)      if i!=(n-2):
10)         print('  '*(2*n-2*i-5)+str(n-i-1),end='')
11)     print()
```

output:

Enter n Value:5



Pattern-76:To print Hollw Diamond Pattern with digits in Descending Order

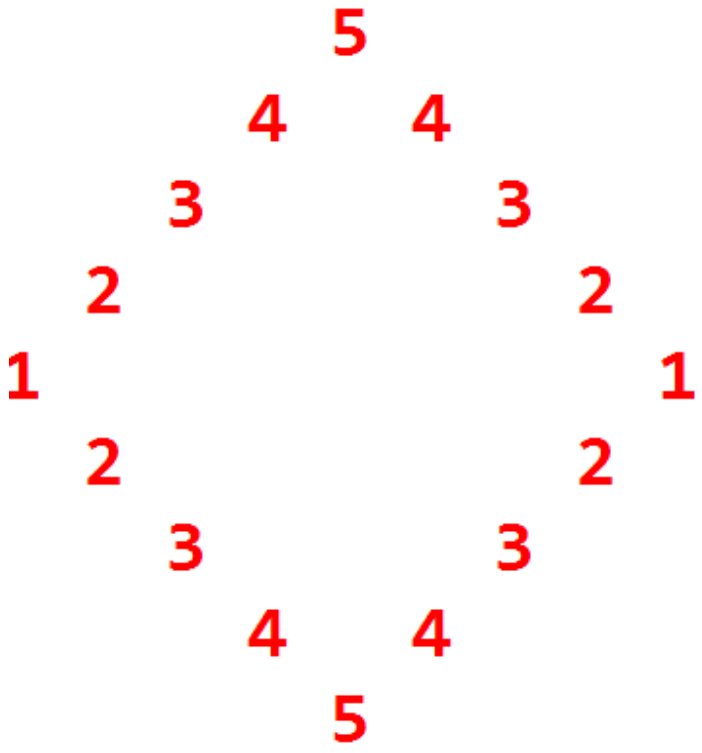
---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n): #0,1,2,3
3)      print('  '*(n-i-1)+str(n-i)+' ',end='')
4)      if i!=0: # if i>0: or if i>=1:
5)          print('  '*(2*i-1)+str(n-i),end='')
6)      print()
7)  for i in range(n-1): #0,1,2
8)      print('  '*(i+1)+str(i+2)+' ',end='')
9)      if i!=(n-2):
10)         print('  '*(2*n-2*i-5)+str(i+2),end='')
11)     print()
```

output:

Enter n Value:5



Pattern-77:To print Hollw Diamond Pattern with alphabet symbols in Dictionary Order

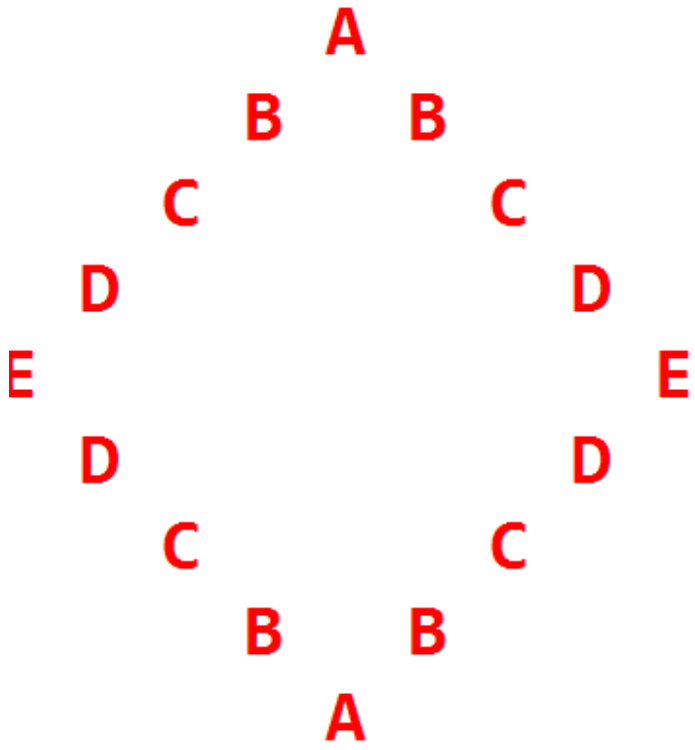
---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n): #0,1,2,3
3)      print('  '*(n-i-1)+chr(65+i)+' ',end='')
4)      if i!=0: # if i>0: or if i>=1:
5)          print('  '*(2*i-1)+chr(65+i),end='')
6)      print()
7)  for i in range(n-1): #0,1,2
8)      print('  '*(i+1)+chr(63+n-i)+' ',end='')
9)      if i!=(n-2):
10)         print('  '*(2*n-2*i-5)+chr(63+n-i),end='')
11)     print()
```

output:

Enter n Value:5



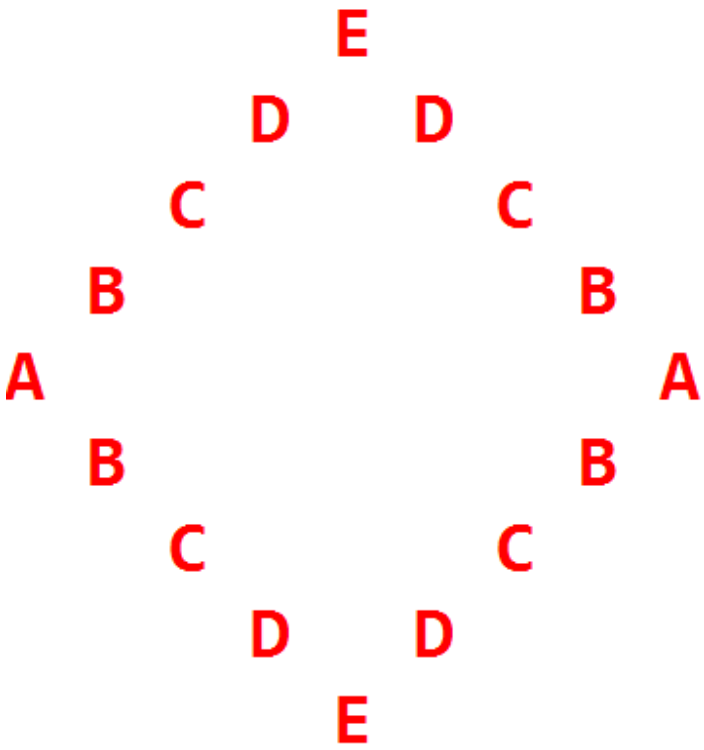
Pattern-78:To print Hollw Diamond Pattern with alphabet symbols in Reverse of Dictionary Order

---

test.py:

```
1)  n=int(input('Enter n Value:'))
2)  for i in range(n): #0,1,2,3
3)      print('  '*(n-i-1)+chr(64+n-i)+' ',end='')
4)      if i!=0: # if i>0: or if i>=1:
5)          print('  '*(2*i-1)+chr(64+n-i),end='')
6)      print()
7)  for i in range(n-1): #0,1,2
8)      print('  '*(i+1)+chr(66+i)+' ',end='')
9)      if i!=(n-2):
10)         print('  '*(2*n-2*i-5)+chr(66+i),end='')
11)     print()
```

Enter n Value:5



UNIT-15: Alphabet Pattern Printing Programs

Pattern-1: To print alphabet Symbol 'A'

```
1)  for row in range(7):
2)      for col in range(5):
3)          if (row == 0) and (col in {1,2,3}):
4)              print('*',end=' ')
5)          elif (row in {1,2,4,5,6}) and (col in {0,4}):
6)              print('*',end=' ')
7)          elif (row==3):
8)              print('*',end=' ')
9)          else:
10)             print(' ',end=' ')
11)     print()
```

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

Pattern-2: To print alphabet Symbol 'B'

1st approach:

```
1)  for row in range(7):
2)      for col in range(5):
3)          if (row in {0,3,6}) and col in {0,1,2,3}:
4)              print('*',end=' ')
5)          elif (row in {1,2,4,5}) and (col in {0,4}):
6)              print('*',end=' ')
7)          else:
8)              print(' ',end=' ')
9)
10)     print()
```

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

2nd approach:

```
1)  for row in range(7):
2)      for col in range(5):
3)          if (row % 3 ==0) and col!=4:
4)              print('*',end=' ')
5)          elif (row %3 !=0) and (col %4==0):
6)              print('*',end=' ')
7)          else:
8)              print(' ',end=' ')
9)
10)     print()
```

Pattern-3: To print alphabet Symbol 'C'

```
1)   for row in range(7):
2)      for col in range(5):
3)          if (row in {0,6}) and (col in {1,2,3}):
4)              print('*',end=' ')
5)          elif (row in {1,5} ) and (col in {0,4}):
6)              print('*',end=' ')
7)          elif (row in {2,3,4} ) and col==0:
8)              print('*',end=' ')
9)          else:
10)             print(' ',end=' ')
11)
12)     print()
```

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

Pattern-4: To print alphabet Symbol 'D'

```
1)  for row in range(7):
2)      for col in range(5):
3)          if (row ==0 or row ==6) and (col!=4):
4)              print('*',end=' ')
5)          elif row in range(1,6) and (col==0 or col==4):
6)              print('*',end=' ')
7)          else:
8)              print(' ',end=' ')
9)
10)     print()
```

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

Pattern-5: To print alphabet Symbol 'E'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): #0 to 4
3)          if (row%3==0):
4)              print('*',end=' ')
5)          elif (row%3!=0) and (col==0):
6)              print('*',end=' ')
7)          else:
8)              print(' ',end=' ')
9)      print()
```

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

Pattern-6: To print alphabet Symbol 'F'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): #0 to 4
3)          if (row==0 or row==3):
4)              print('*',end=' ')
5)          elif (row!=0 and row!=3) and (col==0):
6)              print('*',end=' ')
7)          else:
8)              print(' ',end=' ')
9)      print()
```

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

Pattern-7: To print alphabet Symbol 'G'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): # 0 to 4
3)          if (row in {0,6}) and (col in {1,2,3}):
4)              print('*',end=' ')
5)          elif (row in {1,4,5}) and (col in {0,4}):
6)              print('*',end=' ')
7)          elif (row ==2) and (col==0):
8)              print('*',end=' ')
9)          elif (row ==3) and (col!=1):
10)             print('*',end=' ')
11)         else:
12)             print(' ',end=' ')
13)     print()
```

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

Pattern-8: To print alphabet Symbol 'H'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): # 0 to 4
3)          if (col==0 or col==4):
4)              print('*',end=' ')
5)          elif (row==3) and (col !=0 and col!=4):
6)              print('*',end=' ')
7)          else:
8)              print(' ',end=' ')
9)      print()
```

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

Pattern-9: To print alphabet Symbol 'I'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): # 0 to 4
3)          if (row==0 or row==6):
4)              print('*',end=' ')
5)          elif (row!=0 and row!=6) and (col==2):
6)              print('*',end=' ')
7)          else:
8)              print(' ',end=' ')
9)      print()
```

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

Pattern-10: To print alphabet Symbol 'J'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): # 0 to 4
3)          if (row==0):
4)              print('*',end=' ')
5)          elif (row in range(1,5)) and (col==2):
6)              print('*',end=' ')
7)          elif (row==5) and (col==0 or col==2):
8)              print('*',end=' ')
9)          elif (row==6) and (col==1):
10)             print('*',end=' ')
11)         else:
12)             print(' ',end=' ')
13)     print()
```

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

Pattern-11: To print alphabet Symbol 'K'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): # 0 to 4
3)          if (row==0 or row==6) and (col==0 or col==4):
4)              print('*',end=' ')
5)          elif (row==1 or row==5) and (col==0 or col==3):
6)              print('*',end=' ')
7)          elif (row==2 or row==4) and (col==0 or col==2):
8)              print('*',end=' ')
9)          elif (row==3) and (col==0 or col==1):
10)             print('*',end=' ')
11)         else:
12)             print(' ',end=' ')
13)     print()
```

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

Pattern-12: To print alphabet Symbol 'L'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): # 0 to 4
3)          if (row!=6) and (col==0):
4)              print('*',end=' ')
5)          elif (row==6):
6)              print('*',end=' ')
7)          else:
8)              print(' ',end=' ')
9)      print()
```

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

Pattern-13: To print alphabet Symbol 'M'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): # 0 to 4
3)          if (row!=1 and row!=2) and (col==0 or col==4):
4)              print('*',end=' ')
5)          elif (row==1) and (col!=2):
6)              print('*',end=' ')
7)          elif (row==2) and (col%2==0):
8)              print('*',end=' ')
9)          else:
10)             print(' ',end=' ')
11)     print()
```

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

Pattern-14: To print alphabet Symbol 'N'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): # 0 to 4
3)          if (row!=2 and row!=3 and row!=4) and (col==0 or col==4):
4)              print('*',end=' ')
5)          elif (row==2) and (col!=2 and col!=3):
6)              print('*',end=' ')
7)          elif (row==3) and (col%2==0):
8)              print('*',end=' ')
9)          elif (row==4) and (col!=1 and col!=2):
10)             print('*',end=' ')
11)         else:
12)             print(' ',end=' ')
13)     print()
```

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

Pattern-14B: To print alphabet Symbol 'N' In Square Style

```
1)  for row in range(6): # 0 to 5
2)      for col in range(6): # 0 to 5
3)          if (row==0 or row==5) and (col==0 or col==5):
4)              print('*',end=' ')
5)          elif (row==1) and (col==0 or col==1 or col==5):
6)              print('*',end=' ')
7)          elif (row==2) and (col==0 or col==2 or col==5):
8)              print('*',end=' ')
9)          elif (row==3) and (col==0 or col==3 or col==5):
10)             print('*',end=' ')
11)         elif (row==4) and (col==0 or col==4 or col==5):
12)             print('*',end=' ')
13)         else:
14)             print(' ',end=' ')
15)     print()
```

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

Pattern-15: To print alphabet Symbol 'O'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): # 0 to 4
3)          if (row==0 or row==6) and (col!=0 and col!=4):
4)              print('*',end=' ')
5)          elif (row!=0 and row!=6) and (col==0 or col==4):
6)              print('*',end=' ')
7)          else:
8)              print(' ',end=' ')
9)      print()
```

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

Pattern-16: To print alphabet Symbol 'P'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): # 0 to 4
3)          if (row==0 or row==3) and (col!=4):
4)              print('*',end=' ')
5)          elif (row==1 or row==2) and (col==0 or col==4):
6)              print('*',end=' ')
7)          elif (row in {4,5,6}) and (col==0):
8)              print('*',end=' ')
9)          else:
10)             print(' ',end=' ')
11)     print()
```

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

Pattern-17: To print alphabet Symbol 'Q'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): # 0 to 4
3)          if (row ==0) and (col in {1,2,3}):
4)              print('*',end=' ')
5)          elif (row in {1,2,3}) and (col in {0,4}):
6)              print('*',end=' ')
7)          elif (row ==4) and (col in {0,2,4}):
8)              print('*',end=' ')
9)          elif (row ==5) and (col in {0,3,4}):
10)             print('*',end=' ')
11)         elif (row ==6) and (col !=0):
12)             print('*',end=' ')
13)         else:
```

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

```
14)         print(' ',end=' ')
15)     print()
```

Pattern-18: To print alphabet Symbol 'R'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): # 0 to 4
3)          if (row==0 or row==3) and (col!=4):
4)              print('*',end=' ')
5)          elif (row==1 or row==2) and (col==0 or col==4):
6)              print('*',end=' ')
7)          elif (row==4) and (col==0 or col==2):
8)              print('*',end=' ')
9)          elif (row==5) and (col==0 or col==3):
10)             print('*',end=' ')
11)         elif (row==6) and (col==0 or col==4):
12)             print('*',end=' ')
13)         else:
14)             print(' ',end=' ')
15)     print()
```

Pattern-19: To print alphabet Symbol 'S'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): # 0 to 4
3)          if (row in {0,3,6}) and (col in {1,2,3}):
4)              print('*',end=' ')
5)          elif (row in {1,5}) and (col in {0,4}):
6)              print('*',end=' ')
7)          elif (row==2) and (col==0):
8)              print('*',end=' ')
9)          elif (row==4) and (col==4):
10)             print('*',end=' ')
11)         else:
12)             print(' ',end=' ')
13)     print()
```

Pattern-20: To print alphabet Symbol 'T'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): # 0 to 4
3)          if (row==0):
4)              print('*',end=' ')
5)          elif (row !=0) and (col==2):
6)              print('*',end=' ')
7)          else:
8)              print(' ',end=' ')
9)      print()
```

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

Pattern-21: To print alphabet Symbol 'U'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): # 0 to 4
3)          if (row!=6) and (col in {0,4}):
4)              print('*',end=' ')
5)          elif (row ==6) and (col in{1,2,3}):
6)              print('*',end=' ')
7)          else:
8)              print(' ',end=' ')
9)      print()
```

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

Pattern-22: To print alphabet Symbol 'V'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): # 0 to 4
3)          if (row not in {5,6}) and (col in {0,4}):
4)              print('*',end=' ')
5)          elif (row ==5) and (col in{1,3}):
6)              print('*',end=' ')
7)          elif (row ==6) and (col==2):
8)              print('*',end=' ')
9)          else:
10)             print(' ',end=' ')
11)     print()
```

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

Pattern-23: To print alphabet Symbol 'W'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): # 0 to 4
3)          if (row not in {4,5}) and (col in {0,4}):
4)              print('*',end=' ')
5)          elif (row ==4) and (col in{0,2,4}):
6)              print('*',end=' ')
7)          elif (row ==5) and (col!=2):
8)              print('*',end=' ')
9)          else:
10)             print(' ',end=' ')
11)     print()
```

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

Pattern-24: To print alphabet Symbol 'X'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): # 0 to 4
3)          if (row in {0,1,5,6}) and (col in {0,4}):
4)              print('*',end=' ')
5)          elif (row in {2,4}) and (col in {1,3}):
6)              print('*',end=' ')
7)          elif (row ==3) and (col==2):
8)              print('*',end=' ')
9)          else:
10)             print(' ',end=' ')
11)     print()
```

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

Pattern-25: To print alphabet Symbol 'Y'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): # 0 to 4
3)          if (row in {0,1}) and (col in {0,4}):
4)              print('*',end=' ')
5)          elif (row ==2) and (col in {1,2,3}):
6)              print('*',end=' ')
7)          elif (row in {3,4,5,6}) and (col==2):
8)              print('*',end=' ')
9)          else:
10)             print(' ',end=' ')
11)     print()
```

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

Pattern-26: To print alphabet Symbol 'Z'

```
1)  for row in range(7): # 0 to 6
2)      for col in range(5): # 0 to 4
3)          if (row in {0,6}):
4)              print('*',end=' ')
5)          elif (row ==1) and (col==4):
6)              print('*',end=' ')
7)          elif (row ==2) and (col==3):
8)              print('*',end=' ')
9)          elif (row ==3) and (col==2):
10)             print('*',end=' ')
11)         elif (row ==4) and (col==1):
12)             print('*',end=' ')
13)         elif (row ==5) and (col==0):
14)             print('*',end=' ')
15)         else:
16)             print(' ',end=' ')
17)     print()
```

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

==========

How to call functions as strings directly:

==========

We can call functions as Strings directly either by using exec() or eval() functions.

eg: To call f1() function we can use any of the following code

```
exec('f1()')
eval('f1()')
```

Demo Program:

```
1)  def f1():
2)      print('f1 function')
3)  def f2():
4)      print('f2 function')
5)
6)  ch=input('Enter Function Name:')
7)  exec(ch+'()')
```

MINI Project-1: Vertical LED Panel Display:

==========

```
1)  def print_row(*col):
2)      for i in range(5): #0,1,2,3,4
3)          if i in col:
4)              print('*',end=' ')
5)          else:
6)              print(' ',end=' ')
7)      print()
8)
9)  def A():
10)     print_row(1,2,3)
11)     print_row(0,4)
12)     print_row(0,4)
13)     print_row(0,1,2,3,4)
14)     for i in range(3):
15)         print_row(0,4)
16)
17) def B():
18)     print_row(0,1,2,3)
19)     print_row(0,4)
20)     print_row(0,4)
21)     print_row(0,1,2,3)
22)     print_row(0,4)
23)     print_row(0,4)
24)     print_row(0,1,2,3)
25)
26) def C():
27)     print_row(1,2,3)
28)     print_row(0,4)
29)     print_row(0)
30)     print_row(0)
31)     print_row(0)
32)     print_row(0,4)
33)     print_row(1,2,3)
34)
35) def D():
36)     print_row(0,1,2,3)
37)     for i in range(5):
38)         print_row(0,4)
```

```
39)    print_row(0,1,2,3)
40)
41) def E():
42)    print_row(0,1,2,3,4)
43)    print_row(0)
44)    print_row(0)
45)    print_row(0,1,2,3,4)
46)    print_row(0)
47)    print_row(0)
48)    print_row(0,1,2,3,4)
49)
50) def F():
51)    print_row(0,1,2,3,4)
52)    print_row(0)
53)    print_row(0)
54)    print_row(0,1,2,3,4)
55)    for i in range(3):
56)       print_row(0)
57)
58) def G():
59)    print_row(1,2,3)
60)    print_row(0,4)
61)    print_row(0)
62)    print_row(0,2,3,4)
63)    print_row(0,4)
64)    print_row(0,4)
65)    print_row(1,2,3)
66)
67) def H():
68)    for i in range(3):
69)       print_row(0,4)
70)    print_row(0,1,2,3,4)
71)    for i in range(3):
72)       print_row(0,4)
73) def I():
74)    print_row(0,1,2,3,4)
75)    for i in range(5):
76)       print_row(2)
77)    print_row(0,1,2,3,4)
78)
79) def J():
```



```
80)    print_row(0,1,2,3,4)
81)    for i in range(4):
82)        print_row(2)
83)    print_row(0,2)
84)    print_row(1)
85)
86) def K():
87)    print_row(0,4)
88)    print_row(0,3)
89)    print_row(0,2)
90)    print_row(0,1)
91)    print_row(0,2)
92)    print_row(0,3)
93)    print_row(0,4)
94)
95) def L():
96)    for i in range(6):
97)        print_row(0)
98)    print_row(0,1,2,3,4)
99)
100)       def M():
101)          print_row(0,4)
102)          print_row(0,1,3,4)
103)          print_row(0,2,4)
104)          for i in range(4):
105)              print_row(0,4)
106)       def N():
107)          print_row(0,4)
108)          print_row(0,4)
109)          print_row(0,1,4)
110)          print_row(0,2,4)
111)          print_row(0,3,4)
112)          print_row(0,4)
113)          print_row(0,4)
114)
115)       def O():
116)          print_row(1,2,3)
117)          for i in range(5):
118)              print_row(0,4)
119)          print_row(1,2,3)
120)
```

```
121)        def P():
122)            print_row(0,1,2,3)
123)            print_row(0,4)
124)            print_row(0,4)
125)            print_row(0,1,2,3)
126)            for i in range(3):
127)                print_row(0)
128)
129)        def Q():
130)            print_row(1,2,3)
131)            for i in range(3):
132)                print_row(0,4)
133)            print_row(0,2,4)
134)            print_row(0,3,4)
135)            print_row(1,2,3,4)
136)
137)        def R():
138)            print_row(0,1,2,3)
139)            print_row(0,4)
140)            print_row(0,4)
141)            print_row(0,1,2,3)
142)            print_row(0,2)
143)            print_row(0,3)
144)            print_row(0,4)
145)
146)        def S():
147)            print_row(1,2,3)
148)            print_row(0,4)
149)            print_row(0)
150)            print_row(1,2,3)
151)            print_row(4)
152)            print_row(0,4)
153)            print_row(1,2,3)
154)
155)        def T():
156)            print_row(0,1,2,3,4)
157)            for i in range(7):
158)                print_row(2)
159)
160)        def U():
161)            for i in range(6):
```

```
162)             print_row(0,4)
163)          print_row(1,2,3)
164)
165)       def V():
166)          for i in range(5):
167)             print_row(0,4)
168)          print_row(1,3)
169)          print_row(2)
170)
171)       def W():
172)          for i in range(4):
173)             print_row(0,4)
174)          print_row(0,2,4)
175)          print_row(0,1,3,4)
176)          print_row(0,4)
177)
178)       def X():
179)          print_row(0,4)
180)          print_row(0,4)
181)          print_row(1,3)
182)          print_row(2)
183)          print_row(1,3)
184)          print_row(0,4)
185)          print_row(0,4)
186)
187)       def Y():
188)          print_row(0,4)
189)          print_row(0,4)
190)          print_row(1,2,3)
191)          for i in range(4):
192)             print_row(2)
193)
194)       def Z():
195)          print_row(0,1,2,3,4)
196)          print_row(4)
197)          print_row(3)
198)          print_row(2)
199)          print_row(1)
200)          print_row(0)
201)          print_row(0,1,2,3,4)
202)
```

```
"""ch=input('Enter Any Upper Case Alphabet Symbol:')
exec(ch+'()')"""

word=input('Enter Any Word To Print Vertically:')
for ch in word:
    exec(ch+'()')
    print()
    print()
```

MINI Project-2: Horizontal LED Panel Display:

==========

```
def print_row(*col):
    for i in range(5):
        if i in col:
            print('*',end=' ')
        else:
            print(' ',end=' ')

def A0():
    print_row(1,2,3)
def A1():
    print_row(0,4)
def A2():
    print_row(0,4)
def A3():
    print_row(0,1,2,3,4)
def A4():
    print_row(0,4)
def A5():
    print_row(0,4)
def A6():
    print_row(0,4)

def B0():
    print_row(0,1,2,3)
def B1():
    print_row(0,4)
def B2():
    print_row(0,4)
def B3():
```

```
    print_row(0,1,2,3)
def B4():
    print_row(0,4)
def B5():
    print_row(0,4)
def B6():
    print_row(0,1,2,3)


def C0():
    print_row(1,2,3)
def C1():
    print_row(0,4)
def C2():
    print_row(0)
def C3():
    print_row(0)
def C4():
    print_row(0)
def C5():
    print_row(0,4)
def C6():
    print_row(1,2,3)

def D0():
    print_row(0,1,2,3)
def D1():
    print_row(0,4)
def D2():
    print_row(0,4)
def D3():
    print_row(0,4)
def D4():
    print_row(0,4)
def D5():
    print_row(0,4)
def D6():
    print_row(0,1,2,3)

def E0():
    print_row(0,1,2,3,4)
```

```
71) def E1():
72)     print_row(0)
73) def E2():
74)     print_row(0)
75) def E3():
76)     print_row(0,1,2,3,4)
77) def E4():
78)     print_row(0)
79) def E5():
80)     print_row(0)
81) def E6():
82)     print_row(0,1,2,3,4)
83)
84) def F0():
85)     print_row(0,1,2,3,4)
86) def F1():
87)     print_row(0)
88) def F2():
89)     print_row(0)
90) def F3():
91)     print_row(0,1,2,3,4)
92) def F4():
93)     print_row(0)
94) def F5():
95)     print_row(0)
96) def F6():
97)     print_row(0)
98)
99) def G0():
100)            print_row(1,2,3)
101)        def G1():
102)            print_row(0,4)
103)        def G2():
104)            print_row(0)
105)        def G3():
106)            print_row(0,2,3,4)
107)        def G4():
108)            print_row(0,4)
109)        def G5():
110)            print_row(0,4)
111)        def G6():
```

```
112)            print_row(1,2,3)
113)
114)        def H0():
115)            print_row(0,4)
116)        def H1():
117)            print_row(0,4)
118)        def H2():
119)            print_row(0,4)
120)        def H3():
121)            print_row(0,1,2,3,4)
122)        def H4():
123)            print_row(0,4)
124)        def H5():
125)            print_row(0,4)
126)        def H6():
127)            print_row(0,4)
128)
129)        def I0():
130)            print_row(0,1,2,3,4)
131)        def I1():
132)            print_row(2)
133)        def I2():
134)            print_row(2)
135)        def I3():
136)            print_row(2)
137)        def I4():
138)            print_row(2)
139)        def I5():
140)            print_row(2)
141)        def I6():
142)            print_row(0,1,2,3,4)
143)
144)        def J0():
145)            print_row(0,1,2,3,4)
146)        def J1():
147)            print_row(2)
148)        def J2():
149)            print_row(2)
150)        def J3():
151)            print_row(2)
152)        def J4():
```

```
153)         print_row(2)
154)     def J5():
155)         print_row(0,2)
156)     def J6():
157)         print_row(1)
158)
159)     def K0():
160)         print_row(0,4)
161)     def K1():
162)         print_row(0,3)
163)     def K2():
164)         print_row(0,2)
165)     def K3():
166)         print_row(0,1)
167)     def K4():
168)         print_row(0,2)
169)     def K5():
170)         print_row(0,3)
171)     def K6():
172)         print_row(0,4)
173)
174)     def L0():
175)         print_row(0)
176)     def L1():
177)         print_row(0)
178)     def L2():
179)         print_row(0)
180)     def L3():
181)         print_row(0)
182)     def L4():
183)         print_row(0)
184)     def L5():
185)         print_row(0)
186)     def L6():
187)         print_row(0,1,2,3,4)
188)
189)     def M0():
190)         print_row(0,4)
191)     def M1():
192)         print_row(0,1,3,4)
193)     def M2():
```

```
194)         print_row(0,2,4)
195)     def M3():
196)         print_row(0,4)
197)     def M4():
198)         print_row(0,4)
199)     def M5():
200)         print_row(0,4)
201)     def M6():
202)         print_row(0,4)
203)
204)     def N0():
205)         print_row(0,4)
206)     def N1():
207)         print_row(0,4)
208)     def N2():
209)         print_row(0,1,4)
210)     def N3():
211)         print_row(0,2,4)
212)     def N4():
213)         print_row(0,3,4)
214)     def N5():
215)         print_row(0,4)
216)     def N6():
217)         print_row(0,4)
218)
219)     def O0():
220)         print_row(1,2,3)
221)     def O1():
222)         print_row(0,4)
223)     def O2():
224)         print_row(0,4)
225)     def O3():
226)         print_row(0,4)
227)     def O4():
228)         print_row(0,4)
229)     def O5():
230)         print_row(0,4)
231)     def O6():
232)         print_row(1,2,3)
233)
234)     def P0():
```

```
235)         print_row(0,1,2,3)
236)     def P1():
237)         print_row(0,4)
238)     def P2():
239)         print_row(0,4)
240)     def P3():
241)         print_row(0,1,2,3)
242)     def P4():
243)         print_row(0)
244)     def P5():
245)         print_row(0)
246)     def P6():
247)         print_row(0)
248)
249)     def Q0():
250)         print_row(1,2,3)
251)     def Q1():
252)         print_row(0,4)
253)     def Q2():
254)         print_row(0,4)
255)     def Q3():
256)         print_row(0,4)
257)     def Q4():
258)         print_row(0,2,4)
259)     def Q5():
260)         print_row(0,3,4)
261)     def Q6():
262)         print_row(1,2,3,4)
263)
264)     def R0():
265)         print_row(0,1,2,3)
266)     def R1():
267)         print_row(0,4)
268)     def R2():
269)         print_row(0,4)
270)     def R3():
271)         print_row(0,1,2,3)
272)     def R4():
273)         print_row(0,2)
274)     def R5():
275)         print_row(0,3)
```

```
276)        def R6():
277)            print_row(0,4)
278)
279)        def S0():
280)            print_row(1,2,3)
281)        def S1():
282)            print_row(0,4)
283)        def S2():
284)            print_row(0)
285)        def S3():
286)            print_row(1,2,3)
287)        def S4():
288)            print_row(4)
289)        def S5():
290)            print_row(0,4)
291)        def S6():
292)            print_row(1,2,3)
293)
294)        def T0():
295)            print_row(0,1,2,3,4)
296)        def T1():
297)            print_row(2)
298)        def T2():
299)            print_row(2)
300)        def T3():
301)            print_row(2)
302)        def T4():
303)            print_row(2)
304)        def T5():
305)            print_row(2)
306)        def T6():
307)            print_row(2)
308)
309)        def U0():
310)            print_row(0,4)
311)        def U1():
312)            print_row(0,4)
313)        def U2():
314)            print_row(0,4)
315)        def U3():
316)            print_row(0,4)
```

```
317)        def U4():
318)            print_row(0,4)
319)        def U5():
320)            print_row(0,4)
321)        def U6():
322)            print_row(1,2,3)
323)
324)        def V0():
325)            print_row(0,4)
326)        def V1():
327)            print_row(0,4)
328)        def V2():
329)            print_row(0,4)
330)        def V3():
331)            print_row(0,4)
332)        def V4():
333)            print_row(0,4)
334)        def V5():
335)            print_row(1,3)
336)        def V6():
337)            print_row(2)
338)
339)        def W0():
340)            print_row(0,4)
341)        def W1():
342)            print_row(0,4)
343)        def W2():
344)            print_row(0,4)
345)        def W3():
346)            print_row(0,4)
347)        def W4():
348)            print_row(0,2,4)
349)        def W5():
350)            print_row(0,1,3,4)
351)        def W6():
352)            print_row(0,4)
353)
354)        def X0():
355)            print_row(0,4)
356)        def X1():
357)            print_row(0,4)
```

```
358)        def X2():
359)            print_row(1,3)
360)        def X3():
361)            print_row(2)
362)        def X4():
363)            print_row(1,3)
364)        def X5():
365)            print_row(0,4)
366)        def X6():
367)            print_row(0,4)
368)
369)        def Y0():
370)            print_row(0,4)
371)        def Y1():
372)            print_row(0,4)
373)        def Y2():
374)            print_row(1,2,3)
375)        def Y3():
376)            print_row(2)
377)        def Y4():
378)            print_row(2)
379)        def Y5():
380)            print_row(2)
381)        def Y6():
382)            print_row(2)
383)
384)        def Z0():
385)            print_row(0,1,2,3,4)
386)        def Z1():
387)            print_row(4)
388)        def Z2():
389)            print_row(3)
390)        def Z3():
391)            print_row(2)
392)        def Z4():
393)            print_row(1)
394)        def Z5():
395)            print_row(0)
396)        def Z6():
397)            print_row(0,1,2,3,4)
398)
```

```
399)         word=input('Enter Any Word To print Horizontally:')
400)         for i in range(7):
401)             for ch in word:
402)                 exec(ch+str(i)+'()')
403)                 print(end=' ')
404)             print()
```

MINI Project-3: Horizontal LED Panel Display(Simplified Version):

==========

```
1)  def print_row(*col):
2)      for i in range(5):
3)          if i in col:
4)              print('*',end=' ')
5)          else:
6)              print(' ',end=' ')
7)
8)  def row_0():
9)      print_row(0)
10)
11) def row_2():
12)     print_row(2)
13)
14) def row_0_4():
15)     print_row(0,4)
16)
17) def row_1_2_3():
18)     print_row(1,2,3)
19)
20) def row_0_1_2_3():
21)     print_row(0,1,2,3)
22)
23) def row_0_1_2_3_4():
24)     print_row(0,1,2,3,4)
25)
26) def row_0_2_4():
27)     print_row(0,2,4)
28)
29) def row_0_2():
30)     print_row(0,2)
31) def row_1_3():
```

```
    print_row(1,3)
def row_0_3():
    print_row(0,3)
def row_0_3_4():
    print_row(0,3,4)
def row_1():
    print_row(1)
def row_4():
    print_row(4)
def row_0_1_3_4():
    print_row(0,1,3,4)

C2=C3=C4=E1=E2=E4=E5=F1=F2=F4=F5=F6=G2=L0=L1=L2=L3=L4=L5=P4=P5=P6=S2=Z5=
row_0

A1=A2=A4=A5=A6=B1=B2=B4=B5=C1=C5=D1=D2=D3=D4=D5=G1=G4=G5=H0=H1=H2=
H4=H5=H6=K0=K6=M0=M3=M4=M5=M6=N0=N1=N5=N6=O1=O2=O3=O4=O5=P1=P2=
Q1=Q2=Q3=R1=R2=R6=S1=S5=U0=U1=U2=U3=U4=U5=V0=V1=V2=V3=V4=W0=W1=W2
=W3=W6=X0=X1=X5=X6=Y0=Y1=row_0_4

I1=I2=I3=I4=I5=J1=J2=J3=J4=T1=T2=T3=T4=T5=T6=V6=X3=Y3=Y4=Y5=Y6=Z3=row_2

A0=C0=C6=G0=G6=O0=O6=Q0=S0=S3=S6=U6=Y2=row_1_2_3
B0=B3=B6=D0=D6=P0=P3=R0=R3=row_0_1_2_3
A3=E0=E3=E6=F0=F3=H3=I0=I6=J0=L6=T0=Z0=Z6=row_0_1_2_3_4
M2=N3=Q4=W4=row_0_2_4
J5=K2=K4=R4=row_0_2
V5=X2=X4=row_1_3
K1=K5=R5=row_0_3
N4=Q5=row_0_3_4
J6=Z4=row_1
S4=Z1=row_4
M1=W5=row_0_1_3_4

def G3():
    print_row(0,2,3,4)
def K3():
    print_row(0,1)
def N2():
    print_row(0,1,4)
def Q6():
```

```
69)    print_row(1,2,3,4)
70) def Z2():
71)    print_row(3)
72) word=input('Enter Any Word To print Horizontally:')
73) for i in range(7):
74)    for ch in word:
75)       exec(ch+str(i)+'()')
76)       print(end=' ')
77)    print()
```