



Maharashtra Education Society's
Institute of Management and Career Courses (IMCC), Pune
AUTONOMOUS



Academic Year 2025-26
IT12 DSA - Practical Assignments

1. Write a program to print pallindromic pyramid

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

2. Write a program to print hollow diamond star pattern

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

3. Write a program to print hollow diamond number pattern

```
    1
  1 3
1 5 7
1 7 9
1 7 5
  1 3
    1
```



Maharashtra Education Society's
Institute of Management and Career Courses (IMCC), Pune
AUTONOMOUS



4. Write a program to find all occurrences of substring in a given string.
Example- Given String- "Python programming is an interesting programming language"
 substring= "program"
Output- It should print positions of substring like 7, 37
5. Write a program to count and print the number of vowels, consonants, digits, words, lines, special characters in a given text.
6. Write a Python program to find the longest word in a sentence.
7. Write a Python program to replace all occurrences of a substring with another substring.
Example- text = "I like apple, apple is my favorite fruit. apple pie is delicious."
 old_sub = "apple", new_sub = "orange"
Output- "I like orange, orange is my favorite fruit. orange pie is delicious."
8. Write a Python program to check if a string contains only unique characters.
9. Write a program to remove duplicates from array.
10. Write a program to swap consecutive numbers in an array.

Dr. Ashwini Patil
Course Teacher

Dr. Ravikant Zirmite
Course Teacher