

## CENG 113 Programming Basics

### Lab 3

- 1) Write a Python code that asks the user to enter a non-negative integer number and calculates the factorial of the number.
- 2) Write a Python code that asks the user to enter two different integer numbers and prints all prime numbers in the range between these two numbers.
- 3) Write a Python code that asks an odd integer  $n$  as input and prints a diamond pattern of stars with  $n$  rows.

**Sample Output ( $n = 7$ ):**

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

- 4) Write a Python code that uses a while loop to continuously ask the user to guess a number between 1 and 20. If the user guesses the correct number, break the loop and print "Congratulations! You guessed the correct number!". Otherwise, ask the user to guess another number until the correct guess is made.
- 5) Write a Python code using the Turtle graphics library to draw the following geometric shape consisting of six hexagons.

