EECS 221 Embedded Systems Programming in C

Assignment I

Due To: 25.10.2019 14:00

1) **Write a program which finds the smallest number (excluding 1) whose sum of cubes of digits are equal to that number. The program should the print the number you found as output.**

   Assume the number you are testing is 29.

   2^3 + 9^3 = 8 + 729 = 737. 737 is not equal to 29. So the number you are searching for is not 29.

2) **Write a program that prompts the user to enter an integer number (N) and a character then displays the following (2N+1)-by-(2N+1) diamond pattern like the one below:**

```
Enter a number: 4

Enter a character: C

. . . . C . . . .
. . . C C C . . .
. . C C C C C . .
. C C C C C C C .
C C C C C C C C C
. C C C C C C C .
. . C C C C C . .
. . . C C C . . .
. . . . C . . . .
```

3) **Suppose you want to develop a program that changes a given amount of money into smaller monetary units. The program lets the user enter an amount as a double value representing a total money in "TL" and "kuruş", and outputs a report listing the monetary equivalent in the maximum number of 200TLs, 100TLs, 50TLs, 20Tls, 10TLs, 5TLs, 1TLs, and 50Krs, 25Krs, 10Krs, 5Krs, 1Krs, in this order, to result in the minimum number of coins.**

An example output of your program should be like:

```
Enter an amount in double, for example 11.56: 586.86

Your amount 586.86 consists of

    2 200TLs

    1 100TLs

    1 50TLs

    1 20TLs

    1 10TLs

    1 5TLs

    1 1TLs

    1 50Krs

    1 25Krs

    1 10Krs

    0 5Krs

    1 1Krs
```

Important Note: The output of your program must be the same as the example above.