# MATH 335E Programming Algorithms
## Lab-2 / CRN: 21193

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### Question 1

Let $k$ be non-negative integer number. Numbers that can be written as $4k + 1$ are called the
*Hilbert number*. Write a Java source code that determines whether a number is a Hilbert number
or not.

**Example Scenario**:
> Enter a number to be tested: 9
> 9 is a Hilbert number.

### Question 2

Read three letters in lexical order using scanner class. Then create a Java program that
determines whether or not the letter read in the second place is exactly in the middle of the other
two letters.

**Example Scenario 1:**
> Enter the first character: a
> Enter the second character: c
> Enter the third character: e
> **c is exactly middle character of letters a and e**

**Example Scenario 2:**
> Enter the first character: a
> Enter the second character: c
> Enter the third character: f
> **c is not exactly middle character of letters a and f**

### Question 3

There are three qualities of parquet in a company. The square meter price of these parquet type is
as follows:

Type-A: 42.5 TL/$m^2$
Type-B: 28.5 TL/$m^2$
Type-C: 19.0 TL/$m^2$

In addition, 25.4 TL/$m^2$ labor fee is required. This company offers %10 discount for purchases of
1000 TL and above. Write a Java code that reads $m^2$ and the parquet type information and
calculates the invoice total for related user input.
($m^2$ and parquet type information are read from user and parquet type defined as character type.)