# Core Java Assignment

For week#1

## Assignment #1

## Prime or not?

Implement the body for the following function:

```
static boolean isPrimeNumber(int num) {
        // do stuff here
        return false;
}
```

The function should check and return true only if the number passed as argument is a prime number.

Write a Java program to call the above function multiple times with different values.

## Assignment #2

## Calendar for given month and year

Implement the Java function listed below:

```
public static void printCalendar(int month, int year) {
        /// do stuff here
}
```

The function should accept `month` and `year` and print the calendar for the same. If inputs are invalid, appropriate error message/s should be printed.

Sample output for the inputs (8, 2018):

```
Su Mo Tu We Th Fr Sa
          1  2  3  4
 5  6  7  8  9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30 31
```

PS:

- Do not use any builtin Java classes like `Date` or `Calendar`
- Divide the function into small reusable functions, if possible.

# Assignment #3

## Reverse a sentence by words

Write a function called "reverseByWords", that takes a sentence (string) as an input, and returns another string. The return value must be a sentence in which the words in the original sentence appear in reverse order.

```
public String reverseByWords(String sentence) {
        // do stuff here
        return null;
}
```

For example,

```
String out = reverseByWords("my name is vinod and i live in bangalore");
// the variable "out" should be equal to "bangalore in live i and vinod is name
```

Call the function in main, multiple times by supplying multiple values and verify the same.

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# Assignment #4

## Number to words

Write a function called "inWords" that takes a number between 1 and 99,99,99,999 and returns a String representing the input number in words.

```
public String inWords(int num) {
        // do stuff here
        return null;
}
```

For example,

```
inWords(12345);
// should return "twelve thousand three hundred forty five"
inWords(10203040);
// should return "one crore two lakh three thousand forty"
inWords(101);
// should return "one hundred one"
```

Call the function in main, multiple times by supplying multiple values and verify the same.

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# Assignment #5

## Fibonacci

In mathematics, the Fibonacci numbers are the numbers in the following integer sequence, characterised by the fact that every number after the first two numbers is the sum of the two preceding ones:

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, ...

Write a Java function called "fibonacci", that takes index as parameter and returns the fibonacci number at that index.

```java
public static int fibonacci(int index){
        // do stuff here
        return 0;
}
```

Test the working of the same by calling it multiple times with different index values in the `main()` method of your class.

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