# Day 6 Assignment

## Question 1:

Create a Java Bean class Student with the following fields :

- roll: Integer
- name: String
- age: Integer
- marks: Integer

Make sure that encapsulation is maintained.
Make validation checks before setting the age and marks of the Student (i.e. are they in the valid range,18<age<60, 0<marks<500).
Inside a Separate class main method, Create 2 objects of the Student class one by using the zero-argument constructor and the second by using the parameterized constructor.
Print the details of both the Student objects.

## Question 2:

Create a Java class Demo with 4 parameterized constructors as follows:
1. Demo()
2. Demo(String s)
3. Demo(int i)
4. Demo(float f)

Put a statement in all the constructors which will denote it is the part of the respected constructor.
Create a Single java object of the Demo class in such a way that it will call all the 4 Constructors.

## Question 3:

Create a Student class with the following fields:

- `roll: Integer`
- `name: String`
- `address: String`
- `collageName: String`

Include appropriate getter methods
Create a static method inside this class as follows:

```
public static Student getStudent(boolean isFromNIT)
```

Assume most of the students are from “NIT” college. So the user has to call the above method by passing true or false input whether the student is from NIT or not.

1. If the student belongs to NIT, then create a student object with a 3-argument constructor to initialize the values for (roll, name, address) and set the collageName as “NIT” and return that Student object.

2. If the student belongs to another college, create the student object with a 4-argument constructor to initialize all the values and return that Student object.

Call the above method from the main method of the Demo class 2 times and print both the Student details.

## Question 4:

Make a Class named Car that **has-A** class Engine class.

Class Car has following fields-

```
String model;
String companyName;
String Color;
Engine engine;
```

Class Engine has following fields-

```
int rmp;
int Power;
String manufacturer;
boolean hasTurbo;
```

Inside this class make one method that can enable turbo in the engine.
(Initially make sure that engine does n’t have a turbo but you have to enable it from the method call.)

Make a main class and inside that make two Car objects one with no-Argument Constructor and other with the Parameterised Constructor.

Print the details of each car object.

**Sample OutPut:**

Car Model : Harrier
Car companyName : Tata
Car color : black
Car RPM : 10000
Car power : 110
Car Engine Manufacture : tata
Car Has Turbo : true