

Constructors

Q1. What is a Constructor?

A constructor is a special method (block of code) which is used to create instances of a class.

A constructor is also used to initialize the fields of a class, which you will notice in the below code.

A constructor's name **must** always **be the same** as the class name, which in this case is Student.

A constructor is a special method which does not have a **return type**.

It is a good practice to provide the arguments in the same order as they are declared in the class, if they happen to be the fields of the class.

In the below code note the usage of this to differentiate the identifiers with same names in different scopes.

For example, in the statement **this.id = id;**, this.id refers to the instance field private String id;, and the id, which is after the assignment operator (=) refers to the String id passed as parameter into the constructor.

See the code and retype the same code.



```
1 package q11142;
2 public class Student {
3     private String id;
4     private String name;
5     private int age;
6     private char gender;
7
8     public Student(String id, String name, int age, char gender) {
9         this.id = id;
10        this.name = name;
11        this.age = age;
12        this.gender = gender;
13    }
14 }
```

Q2. In a class if the name of the constructor is different from the name of the class, Java treats it as a different method.

Press Submit to see compilation error and then correct the error.

[Hint: Java is case sensitive, meaning change in the case of characters will make it a different name.]



```
1 package q11143;
2 public class Student {
3     private String id;
4     private String name;
5     private int age;
6     private char gender;
7
8     public Student(String id, String name, int age, char gender) {
9         this.id = id;
10        this.name = name;
11        this.age = age;
12        this.gender = gender;
13    }
14 }
```

Q3. Identify the errors in the given code and correct them.

```
q11159/Student.java    q11159/StudentMain.java
1 package q11159;
2 public class Student {
3     private String id;
4     private String name;
5     private int age;
6     private char gender;
7 }
```

Q4. Identify the errors and correct it.

```
q11160/Student.java    q11160/StudentMain.java
1 package q11160;
2 public class Student {
3     private String id;
4     private String name;
5     private int age;
6     private char gender;
7
8     public Student(String id, String name, int age, char gender) {
9         this.id = id;
10        this.name = name;
11        this.age = age;
12        this.gender = gender;
13    }
14 }
```

Q5. A constructor must be written inside the class body (i.e. inside the open brace { and the closing brace } of the class body).

Identify the errors and correct them.

```
q11161/Student.java    q11161/StudentMain.java
1 package q11161;
2 public class Student {
3     private String id;
4     private String name;
5     private int age;
6     private char gender;
7
8
9     public Student(String name, String rollNo, int age, char gender) {
10        this.id = id;
11        this.name = name;
12        this.age = age;
13        this.gender = gender;
14    }
15
16 }
```