EECS1022 Winter 2021 **Name: (Last, First)** _____
Programming for Mobile Computing
Example Written Test 2 Questions
Time Limit: 15 minutes **Student ID** _____

Caveat: These example questions mainly cover topics on reference aliasing, and they are thus not meant as a substitute for studying the lectures and tutorials on the covered topics.

1. Assume that a `Person` class is already defined, and it has an attribute `name` and a constructor that initializes the person's name from the input string. Consider the following fragment of Java code (inside some `main` method):

```
1 Person p1 = new Person("Heeyeon");
2 Person p2 = new Person("Jiyoon");
3 System.out.println(p1 != p2);
```

   What happens when executing the above Java code?

   A. The above Java code does not compile.

   B. A `NullPointerException` occurs.

   C. An `ArrayIndexOutOfBoundsException` occurs.

   D. One line output to the console:

   ```
   true
   ```

   E. One line output to the console:

   ```
   false
   ```

   F. None of the above.

2. Assume that a `Person` class is already defined, and it has an attribute `name` and a constructor that initializes the person's name from the input string. Consider the following fragment of Java code (inside some `main` method):

```
1 Person p1 = new Person("Heeyeon");
2 Person p2 = new Person("Jiyoon");
3 Person[] persons = new Person[2];
4 System.out.println(persons[persons.length()] != null);
```

   What happens when executing the above Java code?

   A. The above Java code does not compile.

   B. A `NullPointerException` occurs.

   C. An `ArrayIndexOutOfBoundsException` occurs.

   D. One line output to the console:

   ```
   true
   ```

   E. One line output to the console:

   ```
   false
   ```

   F. None of the above.

3. Assume that a `Person` class is already defined, and it has an attribute `name` and a constructor that initializes the person's name from the input string. Consider the following fragment of Java code (inside some `main` method):

```
1 Person p1 = new Person("Heeyeon");
2 Person p2 = new Person("Jiyoon");
3 Person[] persons = new Person[2];
4 System.out.println(persons[persons.length] != null);
```

What happens when executing the above Java code?

A. The above Java code does not compile.

B. A `NullPointerException` occurs.

C. An `ArrayIndexOutOfBoundsException` occurs.

D. One line output to the console:

```
true
```

E. One line output to the console:

```
false
```

F. None of the above.

4. Assume that a `Person` class is already defined, and it has an attribute `name` and a constructor that initializes the person's name from the input string. Consider the following fragment of Java code (inside some `main` method):

```
1 Person p1 = new Person("Heeyeon");
2 Person p2 = new Person("Jiyoon");
3 Person[] persons = new Person[2];
4 System.out.println(persons[persons.length - 1] != null);
```

What happens when executing the above Java code?

A. The above Java code does not compile.

B. A `NullPointerException` occurs.

C. An `ArrayIndexOutOfBoundsException` occurs.

D. One line output to the console:

```
true
```

E. One line output to the console:

```
false
```

F. None of the above.

5. Assume that a `Person` class is already defined, and it has an attribute `name` and a constructor that initializes the person's name from the input string. Consider the following fragment of Java code (inside some `main` method):

```
1 Person p1 = new Person("Heeyeon");
2 Person p2 = new Person("Jiyoon");
3 Person[] persons = new Person[2];
4 System.out.println(persons[persons.length - 1].name.equals("Jiyoon"));
```

What happens when executing the above Java code?

A. The above Java code does not compile.

B. A `NullPointerException` occurs.

C. An `ArrayIndexOutOfBoundsException` occurs.

D. One line output to the console:

```
true
```

E. One line output to the console:

```
false
```

F. None of the above.

6. Assume that a `Person` class is already defined, and it has an attribute `name` and a constructor that initializes the person's name from the input string. Consider the following fragment of Java code (inside some `main` method):

```
1 Person p1 = new Person("Heeyeon");
2 Person p2 = new Person("Jiyoon");
3 Person[] persons = {p1, p2};
4 p1 = p2;
5 System.out.println(persons[0] == p1);
```

What happens when executing the above Java code?

A. The above Java code does not compile.

B. A `NullPointerException` occurs.

C. An `ArrayIndexOutOfBoundsException` occurs.

D. One line output to the console:

```
true
```

E. One line output to the console:

```
false
```

F. None of the above.

7. Assume that a `Person` class is already defined, and it has an attribute `name` and a constructor that initializes the person's name from the input string. Consider the following fragment of Java code (inside some `main` method):

```
1 Person p1 = new Person("Heeyeon");
2 Person p2 = new Person("Jiyoon");
3 Person[] persons = {p1, p2};
4 p1 = p2;
5 persons[0] = p2;
6 System.out.println(persons[0] == p1);
```

What happens when executing the above Java code?

A. The above Java code does not compile.

B. A `NullPointerException` occurs.

C. An `ArrayIndexOutOfBoundsException` occurs.

D. One line output to the console:

```
true
```

E. One line output to the console:

```
false
```

F. None of the above.

8. Assume that a `Person` class is already defined, and it has an attribute `name`, a constructor that initializes the person's name from the input string, and a mutator method `setName` that changes the person's name from the input string. Consider the following fragment of Java code (inside some `main` method):

```
1 Person p1 = new Person("Heeyeon");
2 Person p2 = new Person("Jiyoon");
3 Person[] persons = {p1, p2};
4 p1 = persons[1];
5 persons[0] = p2;
6 p2.setName("Jihye");
7 System.out.println(p1.name);
```

What happens when executing the above Java code?

A. The above Java code does not compile.

B. A `NullPointerException` occurs.

C. An `ArrayIndexOutOfBoundsException` occurs.

D. One line output to the console:

```
Heeyeon
```

E. One line output to the console:

```
Jiyoon
```

F. One line output to the console:

```
Jihye
```

G. None of the above.