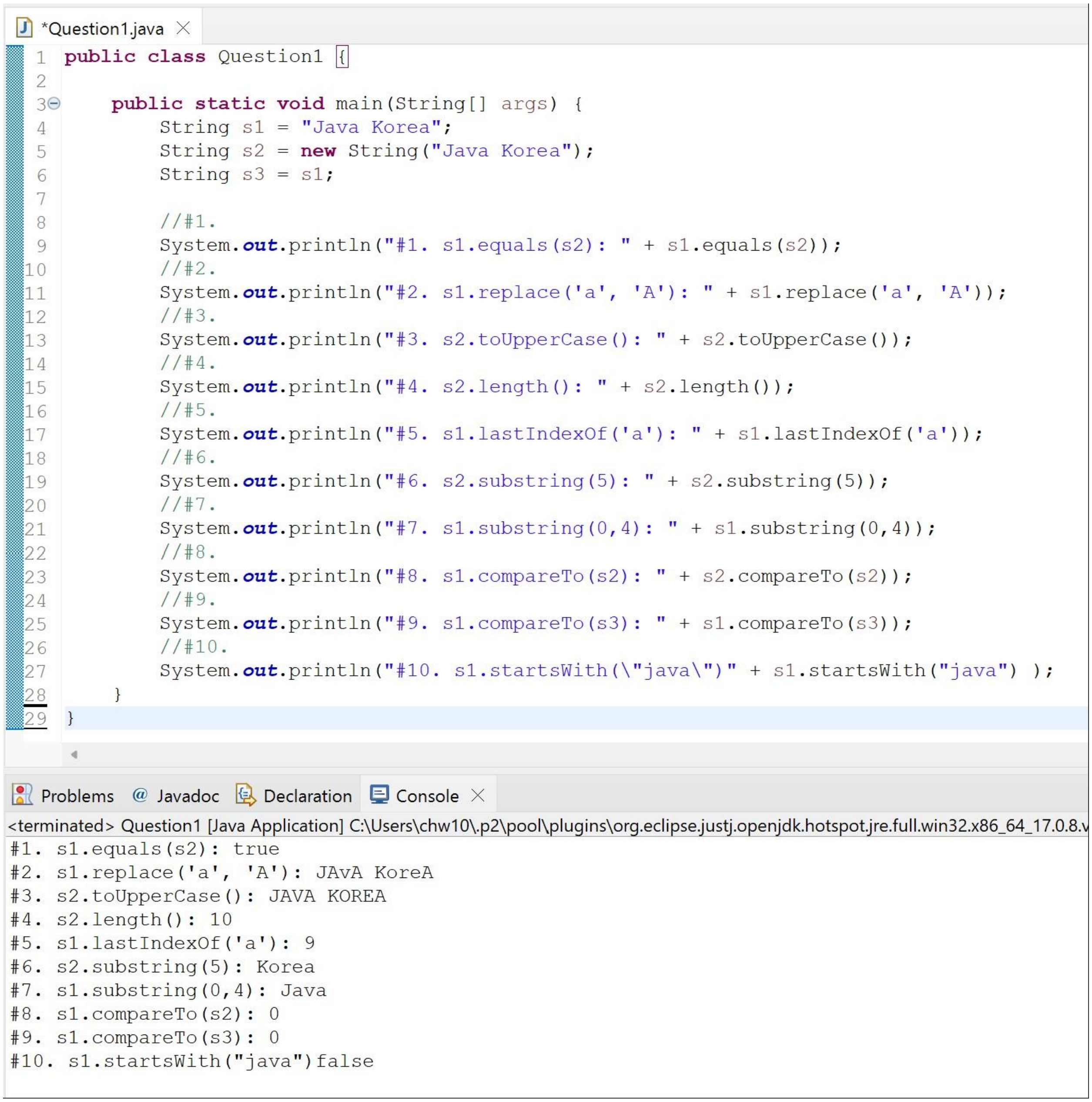
4 주차 과제(연습과제 2)_ 1930022 최하원

#1

<코드>

```
public class Question1 {

      public static void main(String[] args) {
            String s1 = "Java Korea";
            String s2 = new String("Java Korea");
            String s3 = s1;

            //#1.
            System.out.println("#1. s1.equals(s2): " + s1.equals(s2));
            //#2.
            System.out.println("#2. s1.replace('a', 'A'): " +
s1.replace('a', 'A'));
            //#3.
            System.out.println("#3. s2.toUpperCase(): " + s2.toUpperCase());
            //#4.
            System.out.println("#4. s2.length(): " + s2.length());
            //#5.
            System.out.println("#5. s1.lastIndexOf('a'): " +
s1.lastIndexOf('a'));
            //#6.
            System.out.println("#6. s2.substring(5): " + s2.substring(5));

            //#7.
            System.out.println("#7. s1.substring(0,4): " +
s1.substring(0,4));
            //#8.
            System.out.println("#8. s1.compareTo(s2): " + s2.compareTo(s2));

            //#9.
            System.out.println("#9. s1.compareTo(s3): " + s1.compareTo(s3));
            //#10.
            System.out.println("#10. s1.startsWith(\"java\")" +
s1.startsWith("java") );
      }
}
```

<결과>



```java
public class Question1 {

    public static void main(String[] args) {
        String s1 = "Java Korea";
        String s2 = new String("Java Korea");
        String s3 = s1;

        //#1.
        System.out.println("#1. s1.equals(s2): " + s1.equals(s2));
        //#2.
        System.out.println("#2. s1.replace('a', 'A'): " + s1.replace('a', 'A'));
        //#3.
        System.out.println("#3. s2.toUpperCase(): " + s2.toUpperCase());
        //#4.
        System.out.println("#4. s2.length(): " + s2.length());
        //#5.
        System.out.println("#5. s1.lastIndexOf('a'): " + s1.lastIndexOf('a'));
        //#6.
        System.out.println("#6. s2.substring(5): " + s2.substring(5));
        //#7.
        System.out.println("#7. s1.substring(0,4): " + s1.substring(0,4));
        //#8.
        System.out.println("#8. s1.compareTo(s2): " + s2.compareTo(s2));
        //#9.
        System.out.println("#9. s1.compareTo(s3): " + s1.compareTo(s3));
        //#10.
        System.out.println("#10. s1.startsWith(\"java\")" + s1.startsWith("java") );
    }
}
```

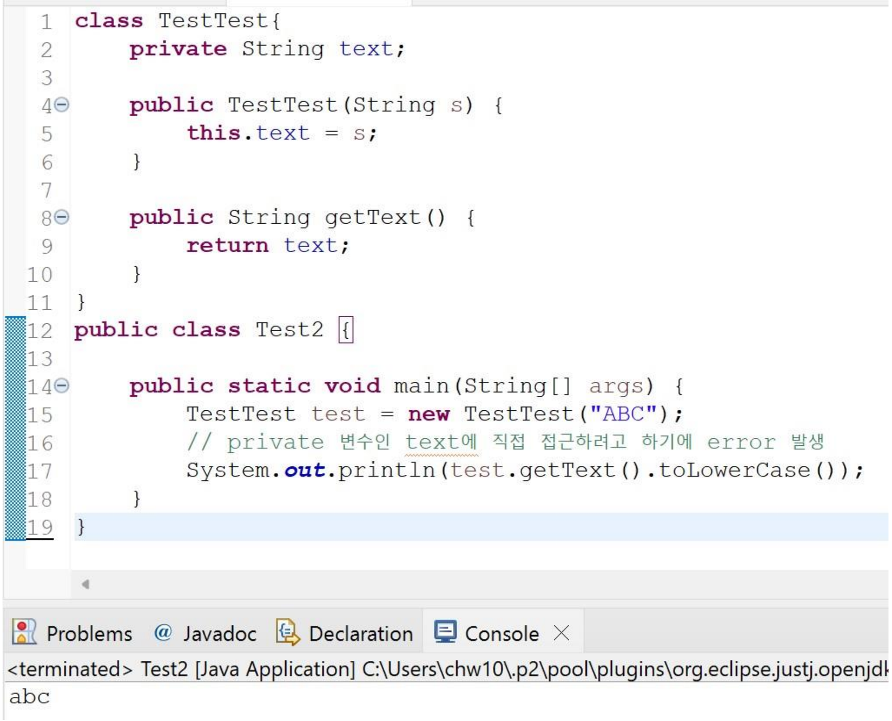
```
<terminated> Question1 [Java Application] C:\Users\chw10\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.8.v
#1. s1.equals(s2): true
#2. s1.replace('a', 'A'): JAvA KoreA
#3. s2.toUpperCase(): JAVA KOREA
#4. s2.length(): 10
#5. s1.lastIndexOf('a'): 9
#6. s2.substring(5): Korea
#7. s1.substring(0,4): Java
#8. s1.compareTo(s2): 0
#9. s1.compareTo(s3): 0
#10. s1.startsWith("java")false
```

#2

<코드>

```
class TestTest{
	private String text;
	
	public TestTest(String s) {
		this.text = s;
	}
	
	public String getText() {
		return text;
	}
}
public class Test2 {

	public static void main(String[] args) {
		TestTest test = new TestTest("ABC");
		// private 변수인 text 에 직접 접근을 시도해서 error 발생 -> public 변수로 수정
		System.out.println(test.getText().toLowerCase());
	}
}
```

<결과>



```
class TestTest{
	private String text;
	
	public TestTest(String s) {
		this.text = s;
	}
	
	public String getText() {
		return text;
	}
}
public class Test2 {

	public static void main(String[] args) {
		TestTest test = new TestTest("ABC");
		// private 변수인 text에 직접 접근하려고 하기에 error 발생
		System.out.println(test.getText().toLowerCase());
	}
}
```

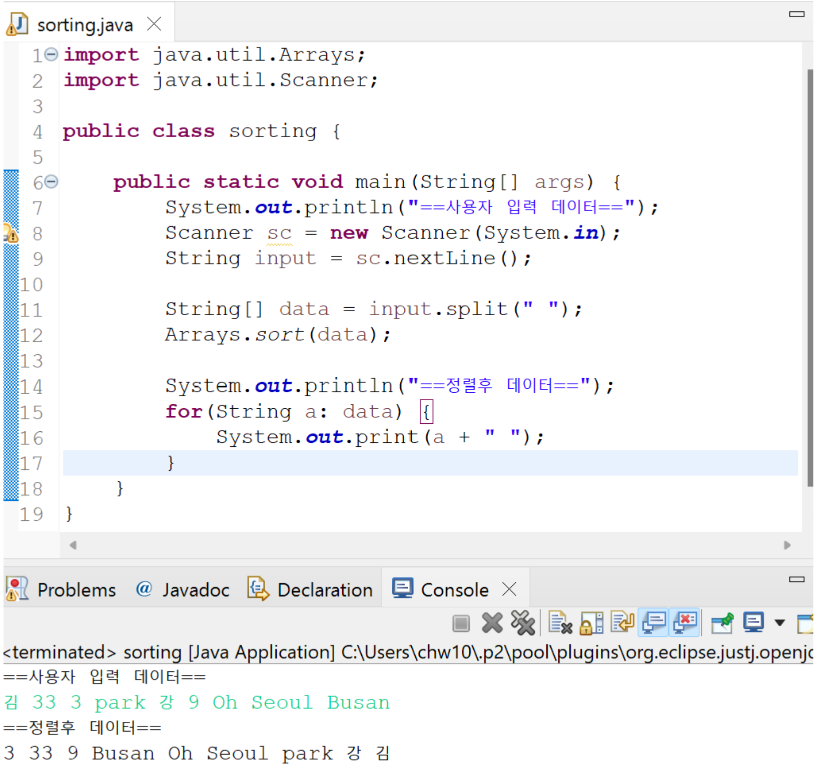
```
<terminated> Test2 [Java Application] C:\Users\chw10\.p2\pool\plugins\org.eclipse.justj.openjdk
abc
```

#3

<코드>

```
import java.util.Arrays;
import java.util.Scanner;

public class sorting {
        public static void main(String[] args) {
                System.out.println("==사용자 입력 데이터==");
                Scanner sc = new Scanner(System.in);
                String input = sc.nextLine();

                String[] data = input.split(" ");
                Arrays.sort(data);


                System.out.println("==정렬후 데이터==");
                for(String a: data) {
                System.out.print(a + " ");
                }
        }
}
```

<결과>



```
import java.util.Arrays;
import java.util.Scanner;

public class sorting {

    public static void main(String[] args) {
        System.out.println("==사용자 입력 데이터==");
        Scanner sc = new Scanner(System.in);
        String input = sc.nextLine();

        String[] data = input.split(" ");
        Arrays.sort(data);

        System.out.println("==정렬후 데이터==");
        for(String a: data) {
            System.out.print(a + " ");
        }
    }
}
```

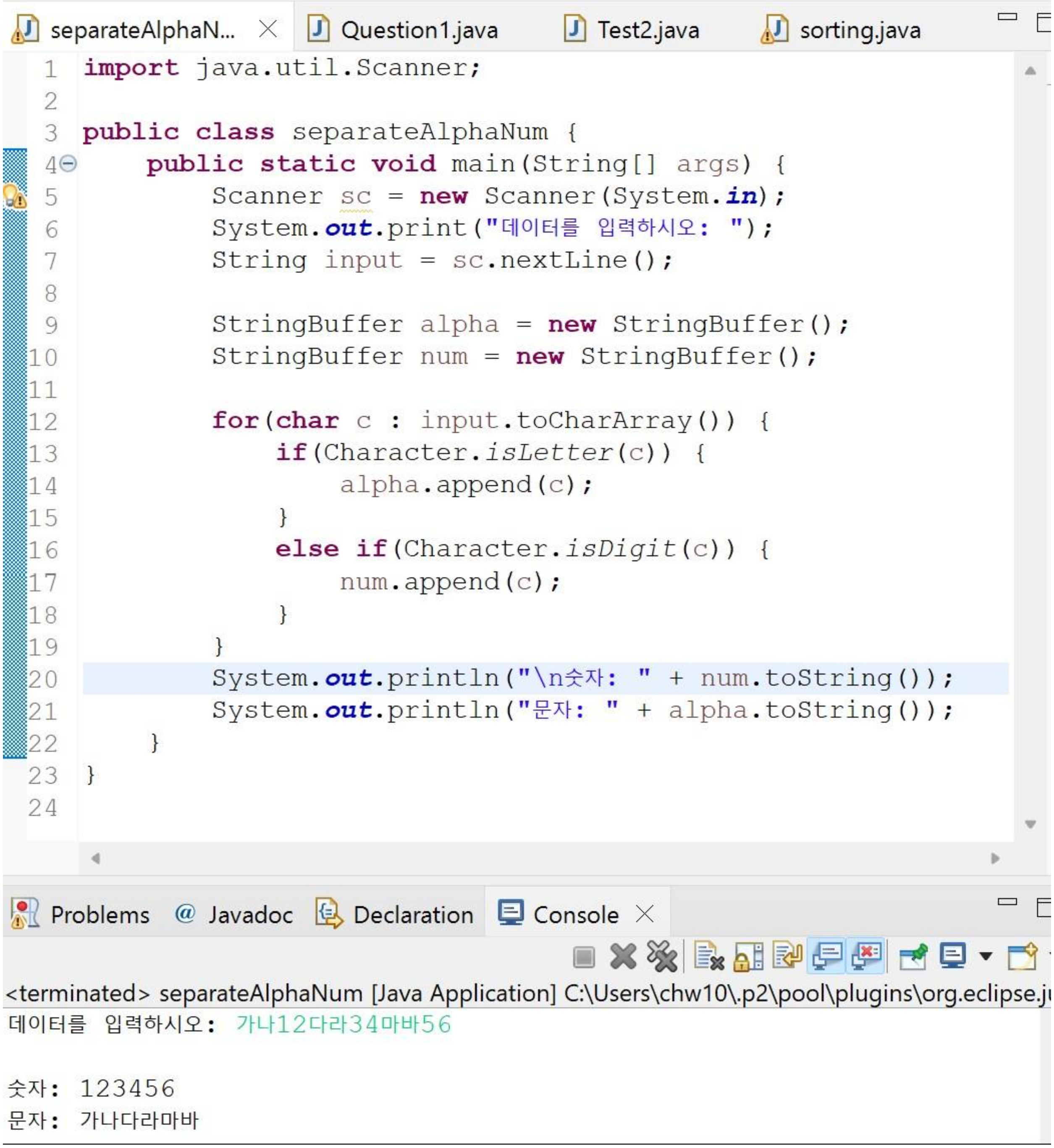
```
<terminated> sorting [Java Application] C:\Users\chw10\.p2\pool\plugins\org.eclipse.justj.openjc
==사용자 입력 데이터==
김 33 3 park 강 9 Oh Seoul Busan
==정렬후 데이터==
3 33 9 Busan Oh Seoul park 강 김
```

#4

<코드>

```
import java.util.Scanner;

public class separateAlphaNum {
        public static void main(String[] args) {
                Scanner sc = new Scanner(System.in);
                System.out.print("데이터를 입력하시오: ");
                String input = sc.nextLine();

                StringBuffer alpha = new StringBuffer();
                StringBuffer num = new StringBuffer();

                for(char c : input.toCharArray()) {
                        if(Character.isLetter(c)) {
                                alpha.append(c);
                        }
                        else if(Character.isDigit(c)) {
                                num.append(c);
                        }
                }
                System.out.println("\n 숫자: " + num.toString());
                System.out.println("문자: " + alpha.toString());
        }
}
```

<결과>



```java
import java.util.Scanner;

public class separateAlphaNum {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("데이터를 입력하시오: ");
        String input = sc.nextLine();

        StringBuffer alpha = new StringBuffer();
        StringBuffer num = new StringBuffer();

        for(char c : input.toCharArray()) {
            if(Character.isLetter(c)) {
                alpha.append(c);
            }
            else if(Character.isDigit(c)) {
                num.append(c);
            }
        }
        System.out.println("\n숫자: " + num.toString());
        System.out.println("문자: " + alpha.toString());
    }
}

```

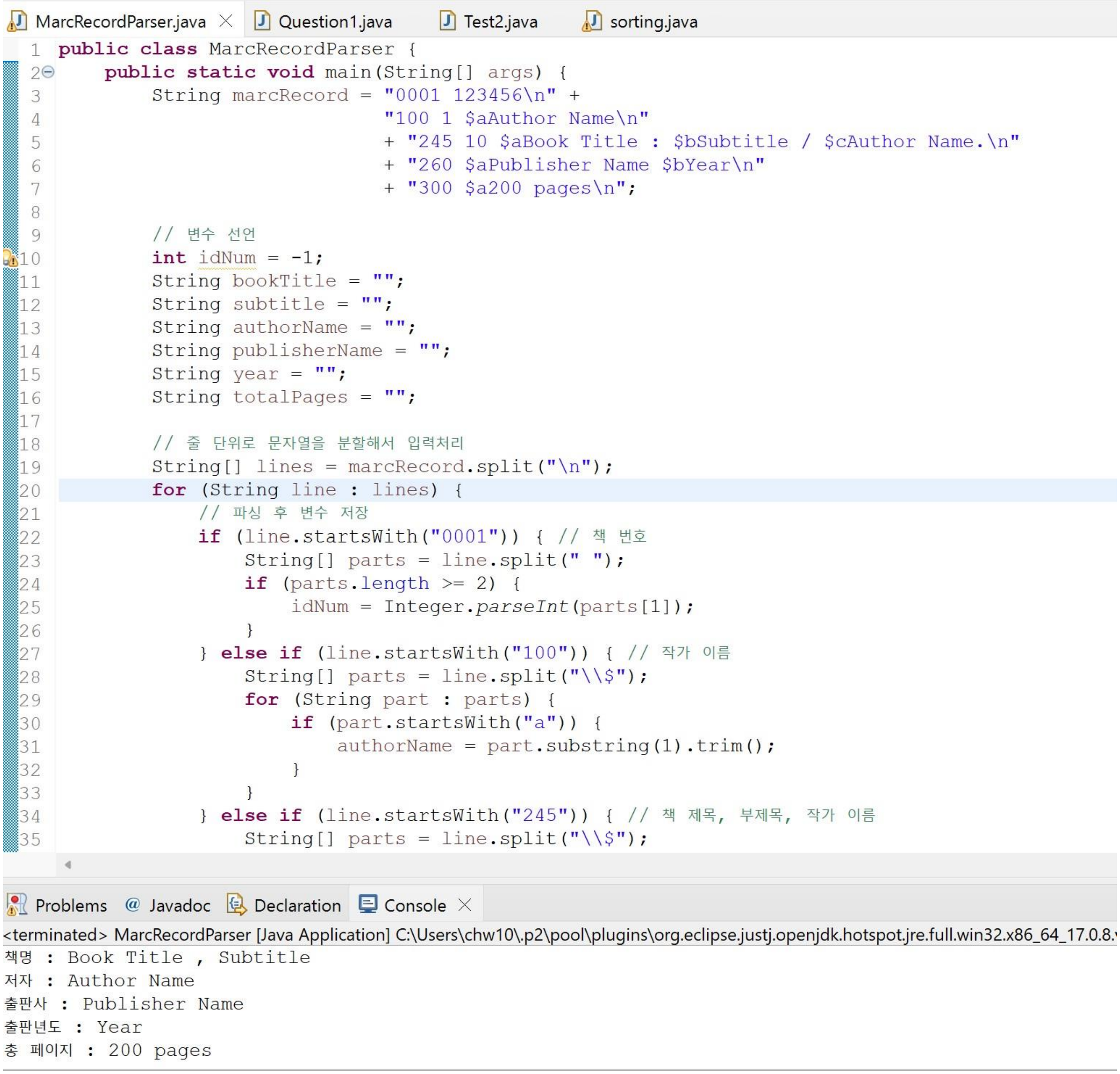
```
<terminated> separateAlphaNum [Java Application] C:\Users\chw10\.p2\pool\plugins\org.eclipse.ju
데이터를 입력하시오: 가나12다라34마바56

숫자: 123456
문자: 가나다라마바
```

#5

<코드>

```
public class MarcRecordParser {
    public static void main(String[] args) {
        String marcRecord = "0001 123456\n" +
                                    "100 1 $aAuthor Name\n"
                                    + "245 10 $aBook Title : $bSubtitle /
$cAuthor Name.\n"
                                    + "260 $aPublisher Name $bYear\n"
                                    + "300 $a200 pages\n";

        // 변수 선언
        int idNum = -1;
        String bookTitle = "";
        String subtitle = "";
        String authorName = "";
        String publisherName = "";
        String year = "";
        String totalPages = "";

        // 줄 단위로 문자열을 분할해서 입력처리
        String[] lines = marcRecord.split("\n");
        for (String line : lines) {
            // 파싱 후 변수 저장
            if (line.startsWith("0001")) { // 책 번호
                String[] parts = line.split(" ");
                if (parts.length >= 2) {
                    idNum = Integer.parseInt(parts[1]);
                }
            } else if (line.startsWith("100")) { // 작가 이름
                String[] parts = line.split("\\$");
                for (String part : parts) {
                    if (part.startsWith("a")) {
                        authorName = part.substring(1).trim();
                    }
                }
            } else if (line.startsWith("245")) { // 책 제목, 부제목, 작가 이름
                String[] parts = line.split("\\$");
                for (String part : parts) {
                    if (part.startsWith("a")) {
                        bookTitle = part.substring(1, part.length() -
2).trim();
                    } else if (part.startsWith("b")) {
                        subtitle = part.substring(1, part.length() -
2).trim();
                    } else if (part.startsWith("c")) {
                        authorName = part.substring(1, part.length() -
1).trim();
                    }
                }
            } else if (line.startsWith("260")) { // 출판사 이름, 출간연도
                String[] parts = line.split("\\$");
                for (String part : parts) {
                    if (part.startsWith("a")) {
                        publisherName = part.substring(1).trim();
                    } else if (part.startsWith("b")) {
                        year = part.substring(1).trim();
                    }
                }
            } else if (line.startsWith("300")) { // 총 페이지 수
                String[] parts = line.split("\\$");
                for (String part : parts) {
                    if (part.startsWith("a")) {
                        totalPages = part.substring(1).trim();
                    }
                }
            }
        }

        // 출력
        //System.out.println("번호: " + idNum);
        System.out.println("책명 : " + bookTitle + " , " + subtitle);
        System.out.println("저자 : " + authorName);
        System.out.println("출판사 : " + publisherName);
        System.out.println("출판년도 : " + year);
        System.out.println("총 페이지 : " + totalPages);
    }
}
```

<결과>



```java
public class MarcRecordParser {
    public static void main(String[] args) {
        String marcRecord = "0001 123456\n" +
                            "100 1 $aAuthor Name\n"
                            + "245 10 $aBook Title : $bSubtitle / $cAuthor Name.\n"
                            + "260 $aPublisher Name $bYear\n"
                            + "300 $a200 pages\n";

        // 변수 선언
        int idNum = -1;
        String bookTitle = "";
        String subtitle = "";
        String authorName = "";
        String publisherName = "";
        String year = "";
        String totalPages = "";

        // 줄 단위로 문자열을 분할해서 입력처리
        String[] lines = marcRecord.split("\n");
        for (String line : lines) {
            // 파싱 후 변수 저장
            if (line.startsWith("0001")) { // 책 번호
                String[] parts = line.split(" ");
                if (parts.length >= 2) {
                    idNum = Integer.parseInt(parts[1]);
                }
            } else if (line.startsWith("100")) { // 작가 이름
                String[] parts = line.split("\\$");
                for (String part : parts) {
                    if (part.startsWith("a")) {
                        authorName = part.substring(1).trim();
                    }
                }
            } else if (line.startsWith("245")) { // 책 제목, 부제목, 작가 이름
                String[] parts = line.split("\\$");
```

```
<terminated> MarcRecordParser [Java Application] C:\Users\chw10\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.8.
책명 : Book Title , Subtitle
저자 : Author Name
출판사 : Publisher Name
출판년도 : Year
총 페이지 : 200 pages
```