Computer Programming Assignment 1

Checkpoints

1. You should do the assignment in your own. You are not allowed to share code with others and/or copy code from other resources. If you are caught, as in the syllabus, you will get a failing grade.
2. Grading will be done in Linux environment using java 1.8.
3. Program failed to compile/run will result 0.
4. Do not loop your program to repeat unless you are told so.
5. Do not change input/output format unless you are told so.
6. Do not color console.
7. Write your name and student number at top of program as a comment
8. DO NOT include Korean (and any other language than English) comment
    - Korean comment will cause compilation errors in Linux environment, which will result 0 for your grade

Submission

1. Submit your assignment on eTL.
2. Zip your file (or tar) as '<Student ID>-assign1.zip'
3. Due of this assignment is Sept 29th
4. No late submission is allowed

Problem 1

Write a java program Assignment1_1.java that gets a natural number as an input and display star-like (i) full shape and (ii) border in screen. The input will be the maximum length of star. Input will be given through console and always given as positive number.

You should output in exactly same format as in the example. Try to find the relation between an input number and the number of '*'s printed, referring to examples below. Hard coding for specific condition will result in 0 score.

Example:

<table>
<tr>
<td>

```
Input:1
(i)
*
*
*
(ii)
*
*
*
```

</td>
<td>

```
Input:2
(i)
**
**
**
(ii)
**
**
**
```

</td>
</tr>
<tr>
<td>

```
Input:3
(i)
 *
***
 *
***
 *
(ii)
 *
* *
 *
* *
 *
```

</td>
<td>

```
Input:4
(i)
 **
****
 **
****
 **
(ii)
 **
*  *
 **
*  *
 **
```

</td>
</tr>
<tr>
<td>

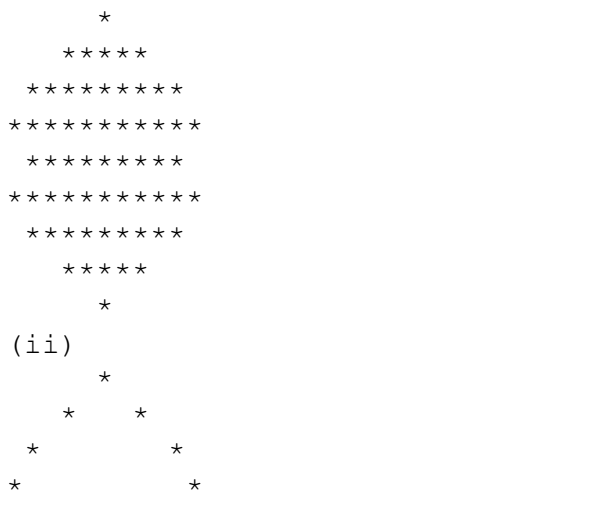
```
Input:9
(i)
    *
  *****
*********
  *****
*********
  *****
    *
(ii)
    *
  *   *
```

</td>
<td>

```
Input:6
(i)
  **
******
  **
******
  **
(ii)
  **
*    *
  **
*    *
```

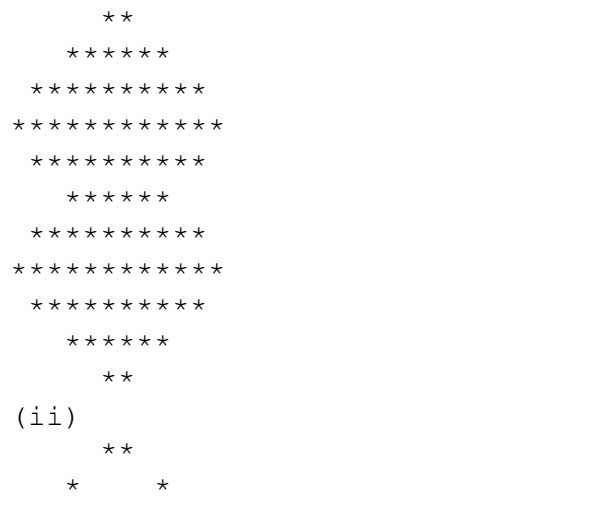
</td>
</tr>
</table>

Input:11
(i)

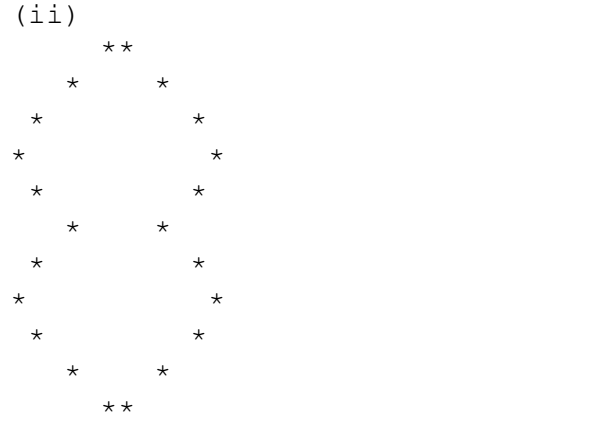


(ii)

Input:12
(i)



(ii)



1:1-1-1
2:2-2-2
3:1-3-1-3-1
4:2-4-2-4-2
5:1-5-1-5-1
6:2-6-2-6-2
7:1-5-7-5-7-5-1
8:2-6-8-6-8-6-2
9:1-5-9-5-9-5-1
10:2-6-10-6-10-6-2
11:1-5-9-11-9-11-9-5-1
12:2-6-10-12-10-6-10-12-10-6-2

Write a java program Assignment1_2.java that gets a natural number as an input and computes angle in degrees in (i) an hour hand and a minute hand, (ii) a minute hand and second hand, and (iii) a second hand and an hour hand.

The input will be the given as (at most) 6 digit number, such as HHMMSS format. HH will be given between 00~23. MM and SS will given between 00~59.

Printed angles should be in between 0 and 180, $0 \leq deg \leq 180$. Degrees should be rounded up to two decimal places. You should print the result from the biggest to smallest. If same values exist, then you should print in hour-minute/minute-second/second-hour order among tie.

You should output in exact same format as in the example below.

```
Input time: 235429
<Result>
Second-hour: 176.76 degrees
Minute-second: 152.9 degrees
Hour-minute: 30.34 degrees
```

```
Input time: 40253
<Result>
Second-hour: 163.44 degrees
Hour-minute: 104.14 degrees
Minute-second: 59.3 degrees
```

```
Input time: 0
<Result>
Hour-minute: 0 degrees
Minute-second: 0 degrees
Second-hour: 0 degrees
```