- Experiment 2 -

Create a Java project named Experiment2, and then create classes Exercise1~Exercise5 in the project, and insert codes into the main method of each class you created to complete the following tasks respectively.

1. Area of a triangle is given by the formula

$$A = \sqrt{s(s-a)(s-b)(s-c)}$$

Where a, b and c are the sides of a triangle and 2s=a+b+c. Write a program to compute the area of the triangle given the values a, b and c.

Sample:

```
Console
<terminated> Exercise1 [Java Application]
Enter 3 side lengths: 4 3 5
area: 6.0
```

2. Read in a positive integer number, write a program that displays the number as follows:

First line: all digits

Second line: all except first digit

Third line: all except first two digit

……

Last line: the last digit

Sample:

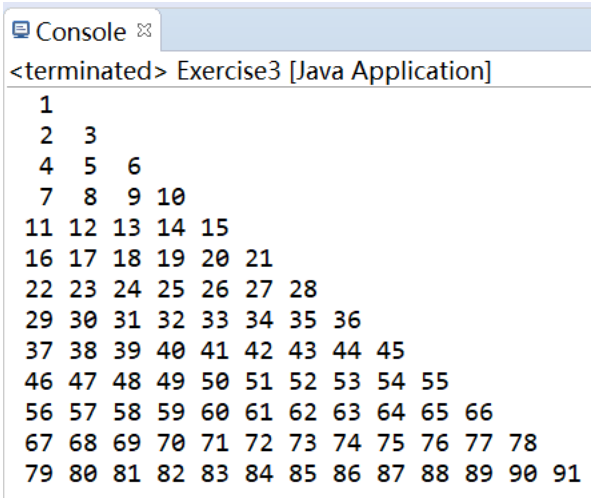
```
Console
<terminated> Exercise2 [Java Application]
Enter an integer: 123456789
123456789
23456789
3456789
456789
56789
6789
789
89
9
```

3. Shown below is a Floyd's triangle.

```
 1
 2  3
 4  5  6
 7  8  9 10
11 12 13 14 15
16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31 32 33 34 35 36
37 38 39 40 41 42 43 44 45
46 47 48 49 50 51 52 53 54 55
56 57 58 59 60 61 62 63 64 65 66
67 68 69 70 71 72 73 74 75 76 77 78
79 80 81 82 83 84 85 86 87 88 89 90 91
```

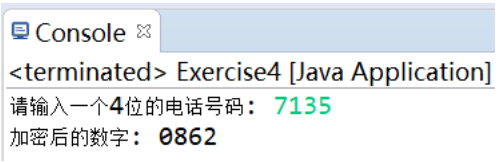
Write a program to print this triangle.

Sample:

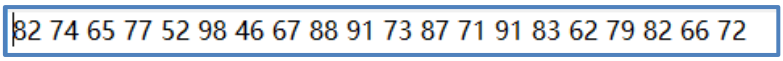


4. A company uses internal company telephones to transmit data (each internal telephone number is a four-digit integer), which is encrypted during the transmission process. The encryption rules are as follows: add 5 to each digit, then replace the digit with the remainder of dividing the sum by 10, and then swap the first and fourth digits, and the second and third digits. Input a 4-digit positive integer, and output the encrypted number.

Sample:



5. Given the scores of 20 students as follows, output the average score and the highest score.



Sample: