In each exercise make your source code and output readable.

Exercise 1. Write a program that asks the user to input two integers denoting quantity and price per item, then calculates and prints the total expenses. If the expense is more than 5000, discount of 10% is offered.
The user-computer interaction could look as follows:

```
Enter quantity: 14
Enter price: 300
Total expense: 4200
```

```
Enter quantity: 1001
Enter price: 5
Total expense with discount: 4504.5
```

Exercise 2. Write a program that requires the user to input one integer and then decides whether it is a two-digit number. The user-computer interaction could look as follows:

```
Enter some integer value: 14
14 is a two-digit number
```

```
Enter some integer value: 140
140 is not a two-digit number
```

```
Enter some integer value: -33
-33 is a two-digit number
```

```
Enter some integer value: -230
-230 is not a two-digit number
```

```
Enter some integer value: 9
9 is not a two-digit number
```

Exercise 3. Write a program that asks the user to enter two integers, obtains the numbers from the user, then prints the larger number followed by the words "is larger". If the numbers are equal print the message "Numbers are equal". The user-computer interaction could look as follows:

```
Enter the first number: 14
Enter the second number: 78
78 is larger
```

```
Enter the first number: 14
Enter the second number: 14
Numbers are equal
```

```
Enter the first number: 80
Enter the second number: 78
80 is larger
```

Exercise 4. Write a program that asks the user to enter cost price and selling price of an item, obtains the requested values, then prints whether the seller has made profit or loss. Moreover, determine how much profit he made or loss he incurred.
The user-computer interaction could look as follows:

```
Enter cost price of item : 900
Enter selling price of item : 1050
Profit : 150
```

```
Enter cost price of item : 900
Enter selling price of item : 900
No profit no loss
```

```
Enter cost price of item : 900
Enter selling price of item : 700
Loss : 200
```

Exercise 5. Write a program that solves the linear equation of the form $ax+b=0$ with integer coefficients given by the user.

Exercise 6. Write a program to determine whether the year is a leap year or not. A year is given by the user. Leap year satisfies the following conditions: it is divisible by 4 but not divisible by 100 unless it is divisible by 400.

Exercise 7. Write a program that solves the quadratic equation of the form $ax^2+bx+c=0$ with integer coefficients given by the user.

Exercises below are a bit complex.

Exercise 8. Write a program that requires the user to input a correct date (as three numbers denoting day, month and year) and then computes how many days have passed since the beginning of the year. (In the first approach assume that the date is correct. In the second approach check whether a date is correct)

Exercise 9. Write a program that requires the user to input two dates (as three numbers each denoting day, month and year) and then checks whether the dates are correct as well as checks whether the first date is earlier than the other. For example: correct dates are 1.01.1999; 23.07.2017; 2.02.2012 incorrect dates are 34.01.1999; -2.13.90; 29.02.1999.