The structure of java program:

```java
public class Ex1
{
    public static void main(String args[]) or [] args
    {
        ┌─────────────────────┐
        │        CODE         │
        └─────────────────────┘
    }
}
```

We call { } block. You can have blocks as many as you need.

Comments:
The comments are to explain what you are doing in your program.

There are two type of comments:
1- Multiple lines comments, starts with /* and ends with */
   you can put the comments any where in the program.

   Example:
       /*
             Name: aaaa
             ID : 12345
             HW: 1
       */

2- One line comment, starts with // and ends with enter.

   Example :
       int name; // this is the name of the person

Letters in java
   1- **Alphabetical letters** ('A' – 'Z' and 'a' – 'z')
   2- **Digits letters** ('0', '1', '2', '3', '4', '5', '6', '7', '8','9')
   3- **Special letters** ('+', '#', '@', ';' … etc.)

Keywords:

The keyword in java is predefined to do some task in the program. There are many keywords in java for example:

    public, class, for, while, if, else, static, implements, extends, do, int, true, null

You should write the keyword as it's defined, for example you can use **IF** instead of **if.**

Keywords List:

abstract	**assert**	**boolean**	**break**	**byte**
case	**catch**	**char**	**class**	**const**
continue	**default**	**do**	**double**	**else**
enum	**extends**	**final**	**finally**	**float**
for	**goto**	**if**	**implements**	**import**
instanceof	**int**	**interface**	**long**	**native**
new	**package**	**private**	**protected**	**public**
return	**short**	**static**	**strictfp**	**super**
switch	**synchronized**	**this**	**throw**	**throws**
transient	**try**	**void**	**volatile**	**while**

Errors types:

1. **Compile or Syntax:** With this error the program will not execute.

   Examples:
   ```
   int x, error, you should put ; not ,

   int total;
   Total = 10; error Total not defined

   int x,a,b;
   x = a > b; error x is int not boolean

   int x;
   if (x == 0) error x has no value
      System.out.println("YES");
   ```

2. **Run time error:** This error happens when executing the program.

   Example:
   ```
   int x = 0;
   System.out.println(1/x);
   when executing it'll give message can't divide by 0
   int x = -10;
   System.out.println(Math.sqrt(x));
   error negative square root not defined
   ```

3. **Logic error:** This error (the worst type of errors), no compile error, the program will execute completely but with wrong results.

   Example:
   ```
   rectangleArea = length + width;
   ```
   if length = 10 and width = 5 you get 15, you should get 50, you printed by mistake + instead of *.