Objectives
Practice conditional statements, and method.

Problem
Write a program to simulate a simple expression evaluator. In your program ask the user to enter an operation selected from the menu, then ask for the two operands. evaluate the result and display the result it on the screen.

sample output (you must create your own menu)

```
To do addition enter +
To do multiplication enter *
To do subtraction enter -
To do exponent enter ^
to do division enter /
To do modulus enter %
***************************

Enter the operation: *
Enter a number between 0-9: 5
Enter a number between 0-9: 3
five multiply three is 15
```

Requirements
- Must provide the required methods
- Must provide the exact same output
- Main method must have one line of code only
- Program runs however many times the user says
- Proper naming
- Proper commenting
- Proper indentation
- Must use if and switch statements

Methods
Public static void main (String [] args): this method has only one line of code and that is calling the start method

Public static void list (): this method prints the menu provided in the sample output. refer to the output given below. Must create your own menu and it must be different than the provided in the output. Be creative and make a user-friendly menu. The operations given in the sample output are +, -, *, /, ^, % . Must add another operation of your choice .

public static int evaluate (int operand1, int operand2, String operation): this method gets the two operands and an operation evaluates the expression and then returns the result. The following are the two sample. Make sure to use equals method from the String class and not ==. If the operation is ^ then your method should return Math.pow(opr1, opr2). **Must use if/else statements**

```
if (operation.equals("*"))
{
     return opr1 * opr2;
 // Rest of the if statements
} ......
```

public static String numToWord(int a): this method translate the operand opr1 to its word version. Must use if/else This method must have ten conditions for numbers 0-9 such as the following:

```
 if(a == 1)
{
    return "one";
}
```
//rest of the conditional statements

Public static String opToWord(String operator): this method translates the operation to its word version. Must use if/else statements

```
 if(operator.equalsIgnoreCase("*"))
 {
        return "multiply";
   }
else if
   //fill in the rest

}
```

//rest of the if statements
public static void start ():

- Create a Scanner object
- asks the user the number of the times they want to run the program
- creates a for loop and in the for loop
    1. call the method list
    2. prompt the user to get the user's choice from the menu
    3. prompt the user to enter the first operand between 0-9
    4. prompt the user to get the second operand between 0-9
    5. call the method evaluate and pass the two operands and the operation to it. evaluate (5,6,"*") should return 30. evaluate (3,6,"+") should return 9

6. call the method numToWord() and pass the first operand to it to get the word for the operand. For example numToWord(5) should return "five". numToWord(6) should return "six"

7. call the method opToWord() to get the word for the operation. For example opToWord("*") should return "multiply", opToWord("+") should return plus
8. Display the result-based o the given output. Here is a sample output if the operands are 2, 4 and the operation is *

```
3 * 4 = 12
three multiply four is 12
```

sample output

```
How many times do you want to use the software: 5
-------------------------------------------
  Welcome to Algebra site
  Addition enter +
  Multiplication enter *
  Subtraction enter -
  Exponent enter ^
  Division enter /
  Modulus enter %
  -------------------------------------------


  Operand #1 : 4
  Operand #2: 5
  Operator-->  *


  ---------------------------------------


  4 * 5 = 20
  four multiply five is 20


  ---------------------------------------


  -------------------------------------------
  Welcome to Algebra site
  Addition enter +
  Multiplication enter *
  Subtraction enter -
```

```
Exponent enter ^
Division enter /
Modulus enter %
---------------------------------------------


  Operand #1 : 6
  Operand #2: 8
  Operator-->  -


   ---------------------------------------


 6 - 8 = -2
 six minus eight is -2


   ---------------------------------------


   ---------------------------------------------
 Welcome to Algebra site
 Addition enter +
 Multiplication enter *
 Subtraction enter -
 Exponent enter ^
 Division enter /
 Modulus enter %
---------------------------------------------

Operand #1 : 7
Operand #2: 8
Operator-->  ^


 ---------------------------------------


7 ^ 8 = 5764801
seven to the power of eight is 5764801


 ---------------------------------------


---------------------------------------------
```

```
Welcome to Algebra site
Addition enter +
Multiplication enter *
Subtraction enter -
Exponent enter ^
Division enter /
Modulus enter %
-----------------------------------------

Operand #1 : 7
Operand #2: 8
Operator-->  +


-----------------------------------------


7 + 8 = 15
seven plus eight is 15


-----------------------------------------


-----------------------------------------
Welcome to Algebra site
Addition enter +
Multiplication enter *
Subtraction enter -
Exponent enter ^
Division enter /
Modulus enter %
-----------------------------------------

Operand #1 : 4
Operand #2: 2
Operator-->  /


-----------------------------------------


4 / 2 = 2
four divided by two is 2
```