Lab Sheet 1

Draw the Finite Automata and implement the following

1. Implement a Finite Automata which recognizes the input if it is an integer or float number.
   - If the input is an integer then output **<NUM, *the number*>**
   - If the number is a float, then output **<FLOAT, *the number*>**

   Example:
   1. Enter an input: 1233
      Output : <NUM, 1233>
   2. Enter an input: 0.22
      Output : <FLOAT, 0.22>
   3. Enter an input: 0123
      Output: Invalid Number

2. Program to recognize if the input is a valid **identifier or not**.
   Sample output
   - Enter an input : abd23
     Output: <ID, abd23>
   - Enter an output: 23b
     Output: Invalid identifier

3. To recognize the keywords if, while, then, else, switch, int, float. Output the corresponding token <INT>, <WHILE>, <THEN>, <ELSE>, <SWITCH>, <INT>, <FLOAT>.

4. Write a program to list all the tokens from the statement **a = b * 100;** . The output must be **<ID, a> <=> <ID, b> < * > <NUM, 100> <SEMI>**