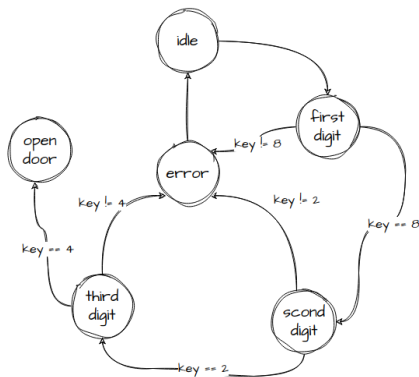


Password State Machine

Design a program to read a password made of 3 numeric digits that prints the legend "Door Open" if it was typed correctly, or "Error, try again" if some number was type incorrect. The program shall follow the state machine diagram below. Notice there are transition with a condition this is interpreted as an if sentence and those transition in blank are not conditioned.

Take a look at [State Machines](#) for more info on state machines.



The state machine representation shall be carried out using the following switch statement. Password will be hard coded with the number 824

```
1 int main( void )
2 {
3     int state = IDLE;
4     int run = ON;
5
6     while( run == ON )
7     {
8         switch( state )
9         {
10             case IDLE:
11                 //display welcome message
12                 break;
13
14             case FIRST_DIGIT:
15                 //read number and query if is correct
16                 break;
17
18             case SECOND_DIGIT:
19                 //read number and query if is correct
20                 break;
21
22             case THIRD_DIGIT:
23                 //read number and query if is correct
24                 break;
25
26             case OPEN_DOOR:
27                 //display open door message
28                 //and end the program
29                 break;
30
31             case ERROR:
```

```
32         //display error message
33         break;
34
35         default:
36         break;
37     }
38 }
39 }
```

Modify the state machine to process a 5 digit password 36579. Then modify the state machine to manage two doors one with the password 36579 and the second one with 36581. Please provide the appropriate chart.