

Submitted by:

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CODE OF OUR Project door lock system:

```
#include <LiquidCrystal.h>

#include <Servo.h>

#include <Keypad.h>

Servo myservo;

int pos=0; // position of servo motor

LiquidCrystal lcd(A4, A5, A3, A2, A1, A0);

const byte rows=4;

const byte cols=3;

char key[rows][cols]={

{'1','2','3'},

{'4','5','6'},

{'7','8','9'},

{'*','0','#'}

};

byte rowPins[rows]={0,1,2,3};
```

```
byte colPins[cols]={4,5,6};  
Keypad keypad= Keypad(makeKeymap(key),rowPins,colPins,rows,cols);  
char* password="1357";  
int currentposition=0;
```

```
void setup()
```

```
{
```

```
  displayscreen();
```

```
  //Serial.begin(9600);
```

```
  myservo.attach(9); //Servo motor connection
```

```
  lcd.begin(16,2);
```

```
}
```

```
void loop()
```

```
{
```

```
  if( currentposition==0)
```

```
  {
```

```
    displayscreen();
```

```

}
int l;
char code=keypad.getKey();
if(code!=NO_KEY)
{
    lcd.clear();
    lcd.setCursor(0,0);
    lcd.print("PASSWORD:");
    lcd.setCursor(7,1);
    lcd.print(" ");
    lcd.setCursor(7,1);
    for(l=0;l<=currentposition;++l)
    {

        lcd.print("*");
        //keypress();
    }

    if (code==password[currentposition])
    {
        ++currentposition;
        if(currentposition==4)
        {

```

```
unlockdoor();  
currentposition=0;
```

```
}
```

```
}
```

```
else  
{  
incorrect();  
currentposition=0;
```

```
}
```

```
}
```

```
}
```

```
void unlockdoor()  
{  
delay(900);  
  
lcd.setCursor(0,0);
```

```
lcd.println(" ");  
lcd.setCursor(1,0);  
lcd.print("Access Granted");  
lcd.setCursor(4,1);  
lcd.println("WELCOME");  
lcd.setCursor(15,1);  
lcd.println(" ");  
lcd.setCursor(16,1);  
lcd.println(" ");  
lcd.setCursor(14,1);  
lcd.println(" ");  
lcd.setCursor(13,1);  
lcd.println(" ");
```

```
for(pos = 180; pos>=0; pos-=5) // open the door  
{  
  myservo.write(pos);  
  delay(5);  
}  
delay(2000);
```

```
delay(1000);
```

```
counterbeep();
```

```
delay(1000);
```

```
for(pos = 0; pos <= 180; pos +=5) // close the door
```

```
{
```

```
myservo.write(pos);
```

```
delay(15);
```

```
currentposition=0;
```

```
lcd.clear();
```

```
displayscreen();
```

```
}
```

```
}
```

```
void incorrect()
```

```
{
```

```
delay(500);
```

```
lcd.clear();
```

```
lcd.setCursor(1,0);  
lcd.print("Pin");  
lcd.setCursor(6,0);  
lcd.print("incorrect");  
lcd.setCursor(15,1);  
lcd.println(" ");  
lcd.setCursor(4,1);  
lcd.println("Re-enter!");
```

```
lcd.setCursor(13,1);  
lcd.println(" ");  
//Serial.println("Passcode wrong you are unverified");  
delay(3000);  
lcd.clear();  
displayscreen();  
}
```

```
void clearscreen()  
{  
  lcd.setCursor(0,0);  
  lcd.println(" ");  
  lcd.setCursor(0,1);  
  lcd.println(" ");  
  lcd.setCursor(0,2);
```

```
lcd.println(" ");  
lcd.setCursor(0,3);  
lcd.println(" ");  
}
```

```
void displayscreen()  
{
```

```
lcd.setCursor(0,0);  
lcd.println("Enter Passcode");  
  
}
```

```
void counterbeep()  
{  
delay(1200);
```

```
lcd.clear();
```

```
lcd.setCursor(2,15);  
lcd.println(" ");
```



```
lcd.setCursor(2,14);  
lcd.println(" ");  
lcd.setCursor(2,0);  
delay(200);  
lcd.println("Relocking in:::");
```

```
lcd.setCursor(4,1);  
lcd.print("5");  
delay(200);  
lcd.clear();  
lcd.setCursor(2,0);  
lcd.println("Relocking in:");  
delay(1000);  
lcd.setCursor(2,0);  
lcd.println("Relocking in:");  
lcd.setCursor(4,1); //2  
lcd.print("4");  
delay(100);  
lcd.clear();  
lcd.setCursor(2,0);  
lcd.println("Relocking in:");  
delay(1000);
```

```
lcd.setCursor(2,0);
```

```
lcd.println("Relocking in:");  
lcd.setCursor(4,1);  
lcd.print("3");  
delay(100);  
lcd.clear();  
lcd.setCursor(2,0);  
lcd.println("Relocking in:");  
delay(1000);
```

```
lcd.setCursor(2,0);  
lcd.println("Relocking in:");  
lcd.setCursor(4,1);  
lcd.print("2");  
delay(100);  
lcd.clear();  
lcd.setCursor(2,0);  
lcd.println("Relocking in:");  
delay(1000);
```

```
lcd.setCursor(4,1);  
lcd.print("1");  
delay(100);  
lcd.clear();  
lcd.setCursor(2,0);
```

```
lcd.println("Relocking in::");
```

```
delay(1000);
```

```
delay(40);
```

```
lcd.clear();
```

```
lcd.setCursor(2,0);
```

```
lcd.print("RE-LOCKING");
```

```
delay(500);
```

```
lcd.setCursor(12,0);
```

```
lcd.print(".");
```

```
delay(500);
```

```
lcd.setCursor(13,0);
```

```
lcd.print(".");
```

```
delay(500);
```

```
lcd.setCursor(14,0);
```

```
lcd.print(".");
```

```
delay(400);
```

```
lcd.clear();
```

```
lcd.setCursor(4,0);
```

```
lcd.print("LOCKED!");
```

```
delay(440);
```

```
}
```

Screenshots of simulation:



