```cpp
#include <Keypad.h>
#include <LiquidCrystal.h>

const byte ROWS = 4;
const byte COLS = 3;
char keys[ROWS][COLS] = {
{'1','2','3'},
{'4','5','6'},
{'7','8','9'},
{'*','0','#'}
};
byte rowPins[ROWS] = {6, 7, 0, 9};
byte colPins[COLS] = {10, 8, 13};
const int rs = 12, en = 11, d4 = 5, d5 = 4, d6 = 3, d7 = 2;
LiquidCrystal lcd(rs, en, d4, d5, d6, d7);
Keypad keypad = Keypad( makeKeymap(keys), rowPins, colPins, ROWS, COLS );

unsigned long loopCount;
unsigned long startTime;
String msg;


void setup() {
  Serial.begin(9600);
  lcd.begin(16, 2);
  lcd.print("EMBEDDED SYSTEM ");
  lcd.setCursor(4,1);
  lcd.print("PROJECT");
  delay(5000);
  lcd.clear();
```

```
}
long getKeypadIntegerMulti()
{
  long value = 0;
  lcd.print("ENTER PIN");

  int pin=checkValidity();
  if(pin!=0){
    lcd.setCursor(4,1);
    lcd.print(pin);
    Serial.print("PIN : ");
    Serial.println(pin);
    delay(1000);
    lcd.clear();
  }

  else{
    lcd.clear();
    lcd.setCursor(3,0);
    lcd.print("ENTER VALID");
    lcd.setCursor(6,1);
    lcd.print("PIN");
    delay(2000);
    lcd.clear();
    getKeypadIntegerMulti();
  }

  lcd.print("QUESTION 1");
  Serial.print("QUESTION 1 : ");
  getValue();
```

```
lcd.print("QUESTION 2");
Serial.print("QUESTION 2 : ");
getValue();
lcd.print("QUESTION 3");
Serial.print("QUESTION 3 : ");
getValue();
lcd.print("QUESTION 4");
Serial.print("QUESTION 4 : ");
getValue();
lcd.print("QUESTION 5");
Serial.print("QUESTION 5 : ");
getValue();
lcd.print("TAKE SURVEY?");
delay(1000);
int sur=takeSurvey();
if(sur==1){
  getKeypadIntegerMulti();
}
else {
  lcd.clear();
  lcd.setCursor(3,0);
  lcd.print("THANK");
  lcd.setCursor(6,1);
  lcd.print("YOU !");
  delay(100000);
  return ;
 }
}
int takeSurvey(){
 long value = 0;
 long keyvalue;
```

```
    int isnum;
    do
    {
      keyvalue = keypad.getKey();
      isnum = (keyvalue >= '0' && keyvalue <= '9');
      if (isnum)
      {
        return 0;
      }

    } while (isnum || !keyvalue);
    return 1;
}
int checkValidity(){
    long value = 0;
    long keyvalue;
    int isnum;
    do
    {
      keyvalue = keypad.getKey();
      isnum = (keyvalue >= '0' && keyvalue <= '9');
      if (isnum)
      {
        value = value * 10 + keyvalue - '0';
      }

    } while (isnum || !keyvalue);
    if(value==121||value==122||value==123||value==124||value==125||value==126){
      return value;
    }
    else{
```

```
    return 0;

  }


}
long getValue(){
 long value = 0;
 long keyvalue;
 int isnum;
 do
 {
  keyvalue = keypad.getKey();
  isnum = (keyvalue >= '0' && keyvalue <= '9');
  if (isnum)
  {


   value = value * 10 + keyvalue - '0';

  }


 } while (isnum || !keyvalue);
 lcd.setCursor(7,1);
 lcd.print(value);
 Serial.println(value);
 delay(1000);
 lcd.clear();
}


void loop()
{
 getKeypadIntegerMulti();
 delay(2500);
}
```