Roll No- 14
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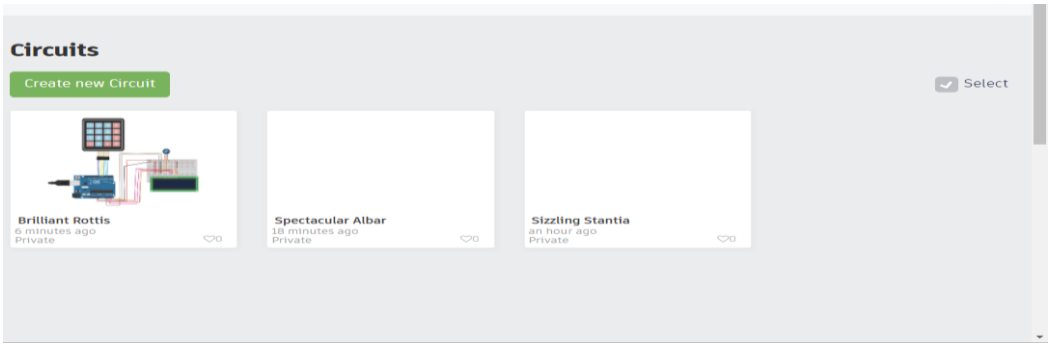
AES MINI PROJECT

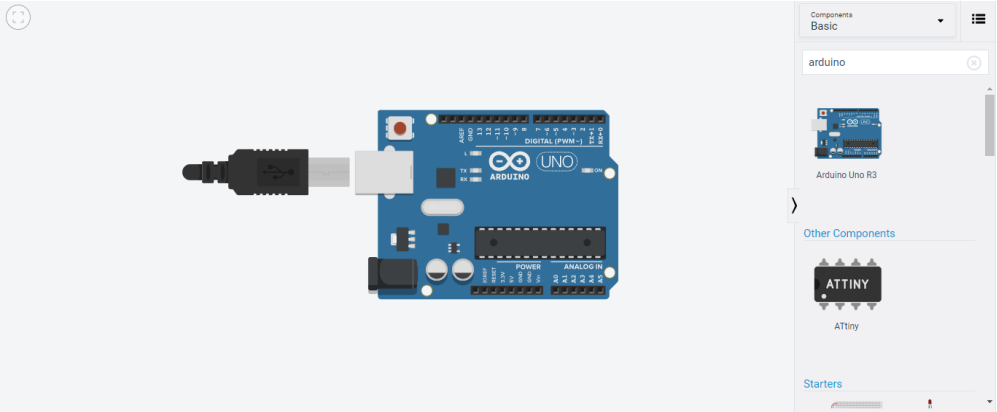
Aim: Take Input from keypad and display it on LCD using Tinkercad.

Soln:

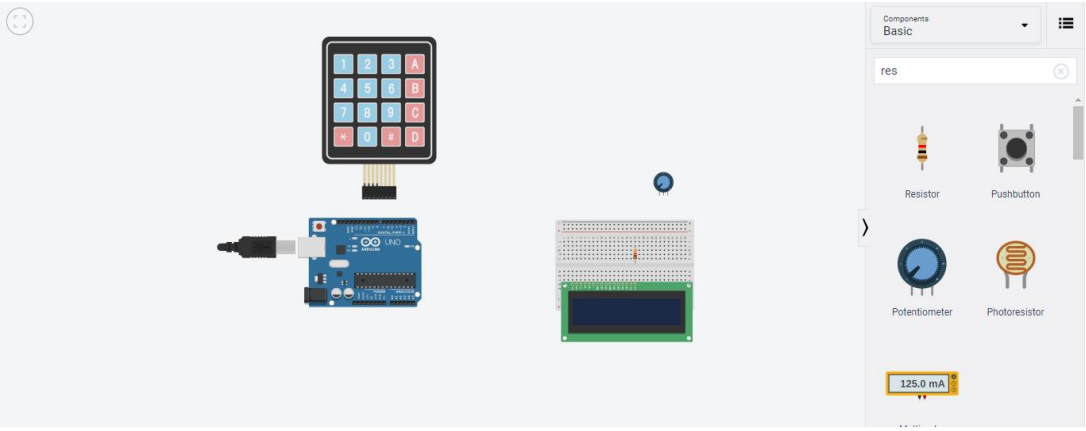
Step1: Open tinkercad and click on circuits and add new circuit



Step2: Now click on search box and type name of the components needed, and drag the component on the screen.

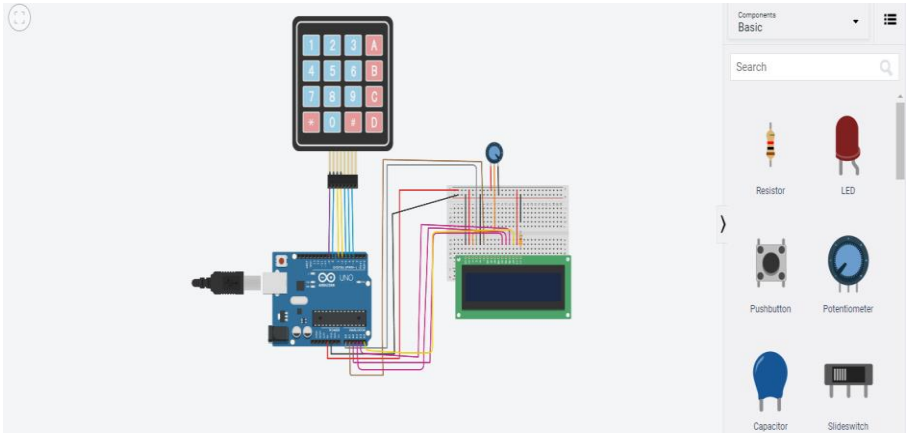


Step3: We need arduino, keypad, LCD, breadboard, potentiometer and resistor drag all these component on the screen.

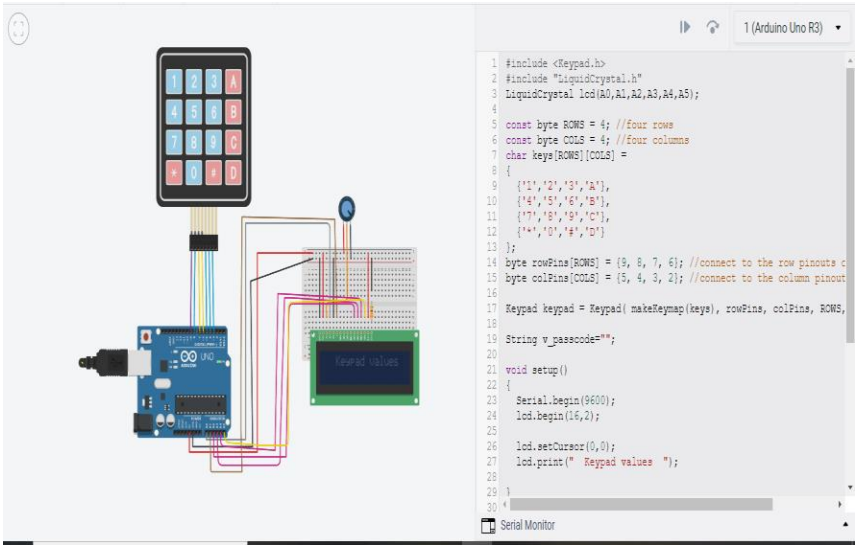


Step4: Now we need to do connections of the ardunio with Lcd and keypad.

a. Connect 5v of ardunio with 5v of the LCD
b. Now we will connect negative pin(GND) with Gnd
c. Connect potentiometer positive,negative terminal with gnd and 5v of the LCD and connect middle of the potentiometer with the vo pin of the LCD.
d. Connect LCD anode with the 5v pin of the Arduino and cathode pin with resitor and the resistor with the GND of the Arduino.
e. Rs pin of the LCD with the A0 of Arduino
f. Rw pin with GND
g. E pin with A1
h. D4 pin the A2
i. D5 pin A3
j. D6 pin A4
k. D7 pin A5
l. Now we will connect keypad with Arduino there are total four rows and four cols accordingly we will connect them.
m. Starting from 9 pin of the Arduino connect all the pins of the keypad.with this we have completed our connections.



Step5: Now we have to add code and start the simulator.



Code:

```
#include <Keypad.h>
#include "LiquidCrystal.h"
LiquidCrystal lcd(A0,A1,A2,A3,A4,A5);

const byte ROWS = 4; //four rows
const byte COLS = 4; //four columns
char keys[ROWS][COLS] =
{
  {'1','2','3','A'},
  {'4','5','6','B'},
  {'7','8','9','C'},
  {'*','0','#','D'}
};
byte rowPins[ROWS] = {9, 8, 7, 6}; //connect to the row pinouts of the keypad
byte colPins[COLS] = {5, 4, 3, 2}; //connect to the column pinouts of the keypad

Keypad keypad = Keypad( makeKeymap(keys), rowPins, colPins, ROWS, COLS );

String v_passcode="";

void setup()
{
  Serial.begin(9600);
  lcd.begin(16,2);

  lcd.setCursor(0,0);
  lcd.print("  Keypad values  ");
}
void loop()
{
  char key = keypad.getKey();

  if (key != NO_KEY)
{
    Serial.println(key);
     lcd.setCursor(0,1);
     lcd.print(key);
}


}
```

```
}
```

Output: