```
#include <SPI.h>
#include <MFRC522.h>
#include <Servo.h>
#include <Wire.h>
#include <LiquidCrystal_I2C.h>
LiquidCrystal_I2C lcd(0x3f, 16, 2);

#define RST_PIN 9  // Configurable, see typical pin layout above
#define SS_PIN 10  // Configurable, see typical pin layout above
const int button_one = 1;
const int button_two = 2;
const int ServoPin1 = 5;
const int ServoPin2 = 7;
Servo s1;
Servo s2;
int servo_position = 0;
MFRC522 mfrc522(SS_PIN, RST_PIN);  // Create MFRC522 instance

//**************************************************************************
*************//
void setup() {
  pinMode(button_one, INPUT);
  pinMode(button_two, INPUT);
  s1.attach(ServoPin1);
  s2.attach(ServoPin2);
  Serial.begin(9600);  // Initialize serial communications with the PC
  lcd.init();
  lcd.backlight();
  lcd.clear();
  lcd.setCursor(0, 0);
  lcd.print(" Note to Coin");
  lcd.setCursor(0, 1);
  lcd.print("   System ");
  delay(6000);
  lcd.clear();
  SPI.begin();                                                  // Init SPI bus
  mfrc522.PCD_Init();                                           // Init MFRC522
card
  Serial.println(F("Read personal data on a MIFARE PICC:"));  //shows in
serial that it is ready to read

  lcd.clear();
  lcd.setCursor(0, 0);
  //lcd.print(" Scanning...");
}

//**************************************************************************
*************//
```

```
void loop() {
  lcd.setCursor(0, 0);
  lcd.print(" Scanning...    ");
  lcd.setCursor(0, 1);
  lcd.print("                ");
  // Prepare key - all keys are set to FFFFFFFFFFFFh at chip delivery from the
factory.
  MFRC522::MIFARE_Key key;
  for (byte i = 0; i < 6; i++) key.keyByte[i] = 0xFF;


  //-----------------------------------------

  // Look for new cards
  if (!mfrc522.PICC_IsNewCardPresent()) {
    return;
  }

  // Select one of the cards
  if (!mfrc522.PICC_ReadCardSerial()) {
    return;
  }

  Serial.println(F("**Card Detected:**"));

  lcd.clear();
  lcd.setCursor(0, 0);
  lcd.print(" Note Detected...");
  delay(2000);

  Serial.print("UID tag :");
  String content = "";
  byte letter;
  for (byte i = 0; i < mfrc522.uid.size; i++) {
    Serial.print(mfrc522.uid.uidByte[i] < 0x10 ? " 0" : " ");
    Serial.print(mfrc522.uid.uidByte[i], HEX);
    content.concat(String(mfrc522.uid.uidByte[i] < 0x10 ? " 0" : " "));
    content.concat(String(mfrc522.uid.uidByte[i], HEX));
  }
  Serial.println();
  Serial.print("Message : ");
  content.toUpperCase();
```

```
 if (content.substring(1) == "22 7F 85 21")  //change here the UID of the
card/cards that you want to give access. 20 Rupees Note
  {
    Serial.println("Authorized access");
    lcd.clear();
    lcd.setCursor(0, 0);
    lcd.print("20 RS NOTE");
    delay(2000);
    lcd.clear();
    lcd.setCursor(0, 0);
    lcd.print("Select Coins");
    delay(5000);
    if (digitalRead(button_one) == HIGH) {
      Serial.println("button_one pressed");
      lcd.clear();
      lcd.setCursor(0, 0);
      lcd.print("   5rs Coin");
      lcd.setCursor(0, 1);
      lcd.print("   Selected");
      delay(1000);
      F1();
      F1();
      F1();
      F1();
      // F1();
      delay(1000);
    }

    if (digitalRead(button_two) == HIGH){
      Serial.println("button_two pressed");
      lcd.clear();
      lcd.setCursor(0, 0);
      lcd.print("  20rs Coin ");
      lcd.setCursor(0, 1);
      lcd.print("   Selected");
      delay(1000);
      F2();




    }
  }
```

```
else if(content.substring(1) == "63 C5 36 00") //10 Rupees Note
{
  Serial.println("Authorized access");
  lcd.clear();
  lcd.setCursor(0, 0);
  lcd.print("10 RS NOTE");
  delay(2000);
  lcd.clear();
  lcd.setCursor(0, 0);
  lcd.print("Select Coins");
  delay(5000);
  if (digitalRead(button_one) == HIGH) {
    Serial.println("button_one pressed");
    lcd.clear();
    lcd.setCursor(0, 0);
    lcd.print("   5rs Coin");
    lcd.setCursor(0, 1);
    lcd.print("   Selected");
    delay(1000);
    F1();
    F1();
    //F1();
    //F1();
    // F1();
    delay(1000);
  }

  if (digitalRead(button_two) == HIGH)
  {


    Serial.println("button_two pressed");
    lcd.clear();
    lcd.setCursor(0, 0);
    lcd.print("  10rs Coin ");
    lcd.setCursor(0, 1);
    lcd.print("   Selected");
    F2();
    //F2();
    //F2();



  }


}
```

```
  else{
    Serial.println(" Access denied");
    lcd.clear();
    lcd.setCursor(0, 0);
    lcd.print("Invalid Note");
    delay(3000);
 }
}

//Functions to rotate Servo Motor

  void F1() {
    s1.write(90);
    delay(1000);
    s1.write(0);
    delay(1000);
  }

  void F2() {
    s2.write(90);
    delay(1000);
    s2.write(0);
    delay(1000);
  }
```