

## INTERFACING AND PROGRAMMING OF LCD WITH ARDUINO

### 1. HELLO WORLD

```
// include the library code:
```

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

```
// initialize the library by associating any needed LCD interface pin
```

```
// with the arduino pin number it is connected to
```

```
const int rs = 12, en = 11, d4 = 5, d5 = 4, d6 = 3, d7 = 2;
```

```
LiquidCrystal lcd(rs, en, d4, d5, d6, d7);
```

```
void setup() {
```

```
    // set up the LCD's number of columns and rows:
```

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

```
    // Print a message to the LCD.
```

```
    lcd.print("hello, world!");
```

```
}
```

```
void loop() {
```

```
    // set the cursor to column 0, line 1
```

```
    // (note: line 1 is the second row, since counting begins with 0):
```

```
    lcd.setCursor(0, 1);
```

```
    // print the number of seconds since reset:
```

```
    lcd.print(millis() / 1000);
```

```
}
```

## 2. SCROLL

```
// include the library code:
```

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

```
// initialize the library by associating any needed LCD interface pin
```

```
// with the arduino pin number it is connected to
```

```
const int rs = 12, en = 11, d4 = 5, d5 = 4, d6 = 3, d7 = 2;
```

```
LiquidCrystal lcd(rs, en, d4, d5, d6, d7);
```

```
void setup()
```

```
{
```

```
  // set up the LCD's number of columns and rows:
```

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

```
  // Print a message to the LCD.
```

```
  lcd.print("hello, world!");
```

```
}
```

```
void loop() {
```

```
  lcd.scrollDisplayLeft();
```

```
  delay(500);
```

```
}
```