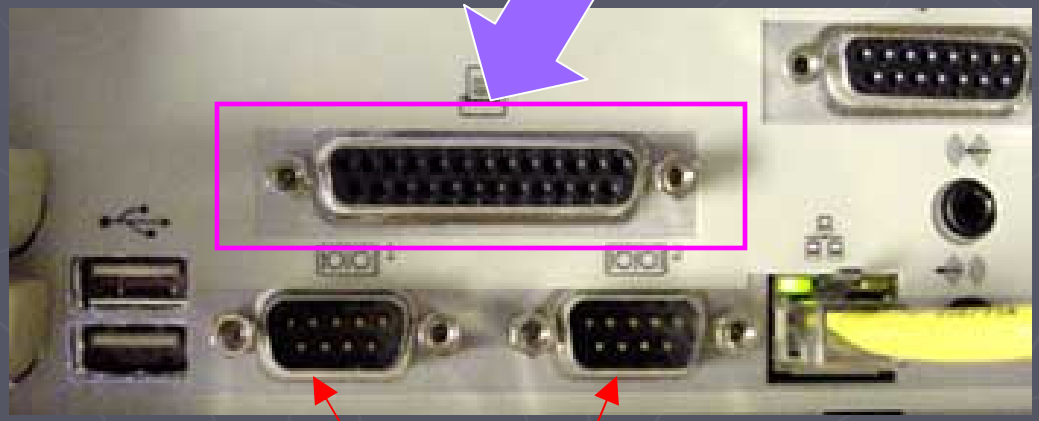
Parallel Port



By: Mr.Khaled Wagdy and Mr.Ahmad Farag

Pin configuration

DB 25	
Pin	Signal
1	Strobe
2	data0
3	data1
4	data2
5	data3
6	data4
7	data5
8	data6
9	data7
10	Acknowledge
11	Busy
12	Paper End
13	Select
14	Auto Feed
15	Error
16	Init
17	Select In
18	GND
19	GND
20	GND
21	GND
22	GND
23	GND
24	GND
25	GND

By: Mr.Khaled Wagdy and Mr.Ahmad Farag

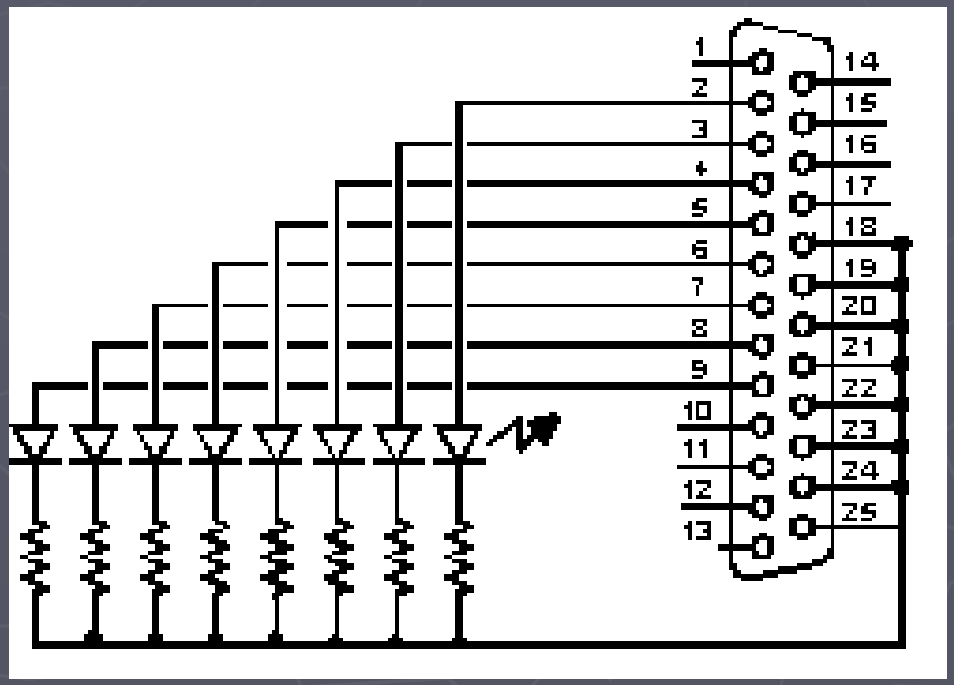
Output on Parallel Port

```
#include <stdio.h>
#include <conio.h>

int main(void)
{
  unsigned port = 0x378;
  int value;
  value = outp(0x378, 0x00);
  printf("Value %c sent to port number %d\n", value, port);
  return 0;
}
```

By: Mr.Khaled Wagdy and Mr.Ahmad Farag

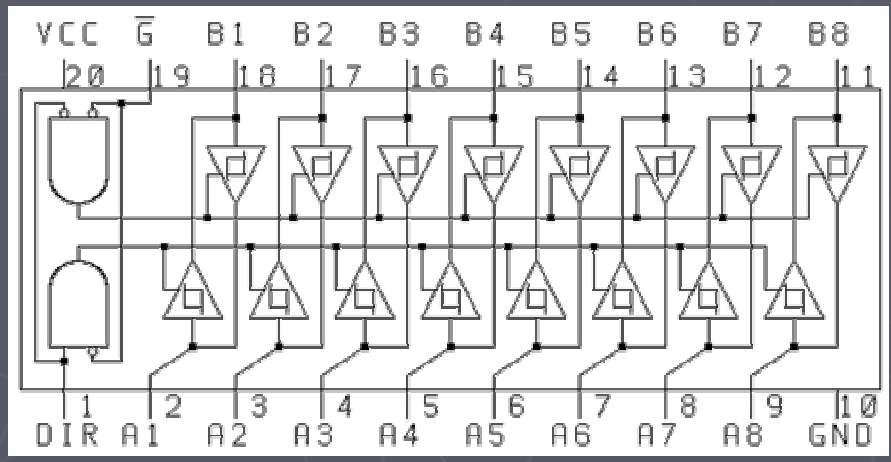
Simple 8 LED circuit



By: Mr.Khaled Wagdy and Mr.Ahmad Farag

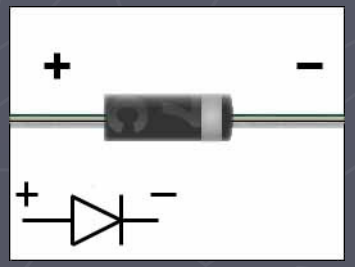
Protection circuit

- Diode
- Buffer
- Transistor



74245 buffer

transistor



Diode

By: Mr.Khaled Wagdy and Mr.Ahmad Farag

Common Ground

- Ground in electricity is a reference voltage node in the device or circuit. Usually it represents the zero voltage node for the device or circuit.
- When devices are connected to each other

  it is preferable to have a common ground node for the configuration.
- That is to say they share the same reference voltage node.
- Caution: before using common ground, one must be sure that ground values are the same because different ground values causes voltage drop on ground and induce undesired currents in the circuit

By: Mr.Khaled Wagdy and Mr.Ahmad Farag

Assignment

- "Hello world" Lighting LEDs.
- Control motor to move in 2 directions

  Hint:
  - Review relays & transistors.
  - What's an H-bridge?

By: Mr.Khaled Wagdy and Mr.Ahmad Farag

Three categories

- Parallel port.
- PIC microcontroller.
- LEGO.

Parallel port

- How to address the parallel port.
- Your favorite programming language.

By: Mr.Khaled Wagdy and Mr.Ahmad Farag

PIC microcontroller

German University in Cairo

- Programming and basic circuit.
- Tools you need.
- Serial programmer.

By: Mr.Khaled Wagdy and Mr.Ahmad Farag

LEGO

- LEGO mindstorms programming.
- Your favorite programming language?

By: Mr.Khaled Wagdy and Mr.Ahmad Farag

GUC
German University in Cairo

END

By: Mr.Khaled Wagdy and Mr.Ahmad Farag