**COMSATS University**

**Islamabad**



**Lab Report # 11**

**Real Time Embedded Systems**

**(EEE-446)**

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| **Control of AC Loads using Embedded Hardware.** |

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**Submitted To:**

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# Lab # 11

## Control of AC loads using embedded hardware.

### Objectives

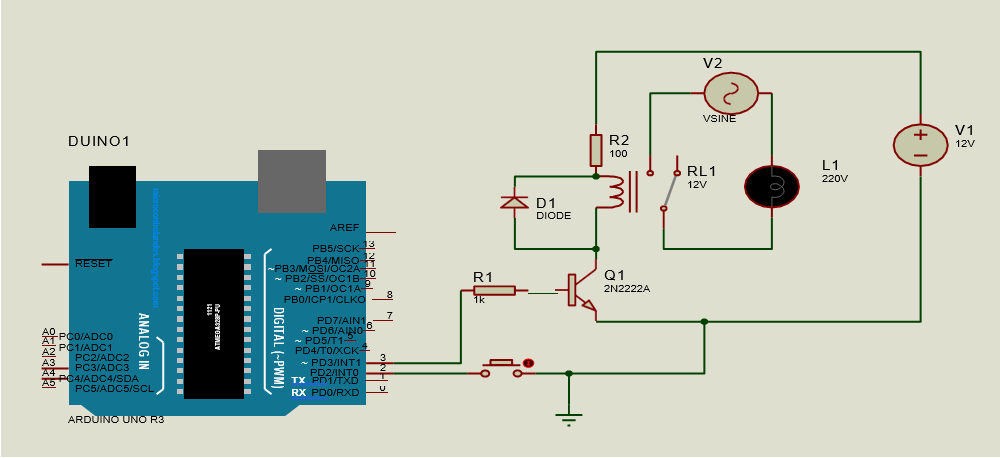
* Learn how to control AC load using embedded system
* Discover the new components to control AC Load

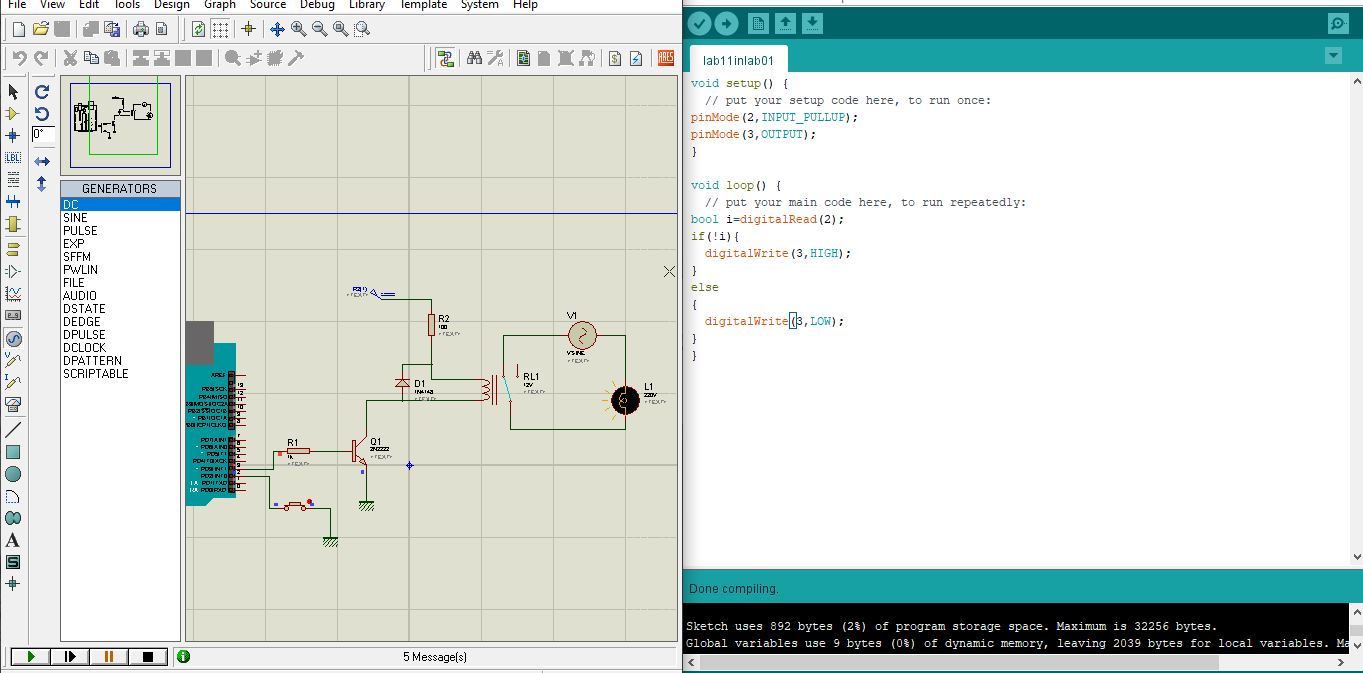
### Tools

* Arduino
* Proteus ISIS

### In-Lab Task 1:

Design and implement an embedded system to turn ON/OFF the 220V AC light from a button interfaced with controller

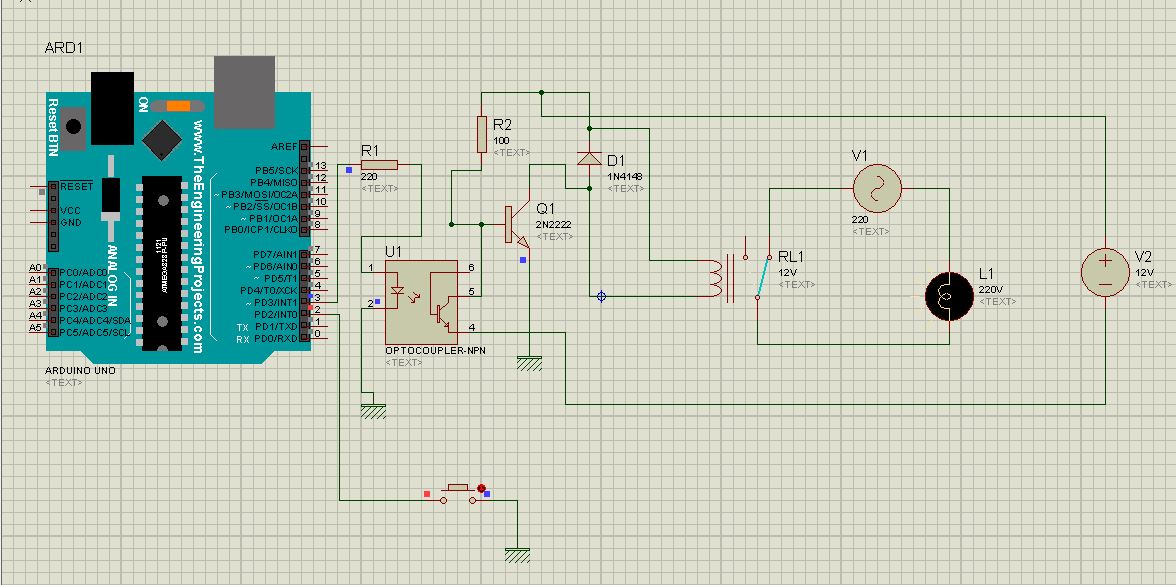




### In Lab Task 2:

Using the circuit used in the previous task, please add the opto-coupler at the optimum place and do the same task again to make our controller more secure.

## Proteus Schematic:



## Arduino IDE Code:

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# Conclusion:

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| In this lab, the control of AC loads with the utilization of embedded gadgets was considered. AC control switches, for example, SCR (TRIAC), optocoupler/optoisolator, relays and so forth were additionally utilized in blend with a microcontroller. Ordinary AC loads, for example, engines, bulbs, fans and so forth can computerized utilizing embedded frameworks.  The speed/power of fans/bulbs can likewise be constrained by AC controlling devices like TRIAC or a SCR. |

