

The Robo-submarine

By

Kevin McMahon &
Joy Hinds

Purpose of the Robo Submarine

- Initial Goal: To illustrate Archimedes' Principle
- Ultimate Goal: To add more functions to the Robo Submarine

WHAT IS ARCHIMEDES PRINCIPLE?

- Submerging and surfacing on an object
- When submerged, the buoyant force equals the weight of the fluid displaced

Purpose of the Robo Submarine

- Goal # 1 To illustrate Archimedes Principle
- Goal #2 Advance the Robo Sub. to perform more functions which be useful to scientists

Materials Needed

- Solenoids 12 volt
- Tank Valve
- Can Adapter
- 1/16 hose (4ft.)
- Airbrush propellant

Building the Robo Submarine

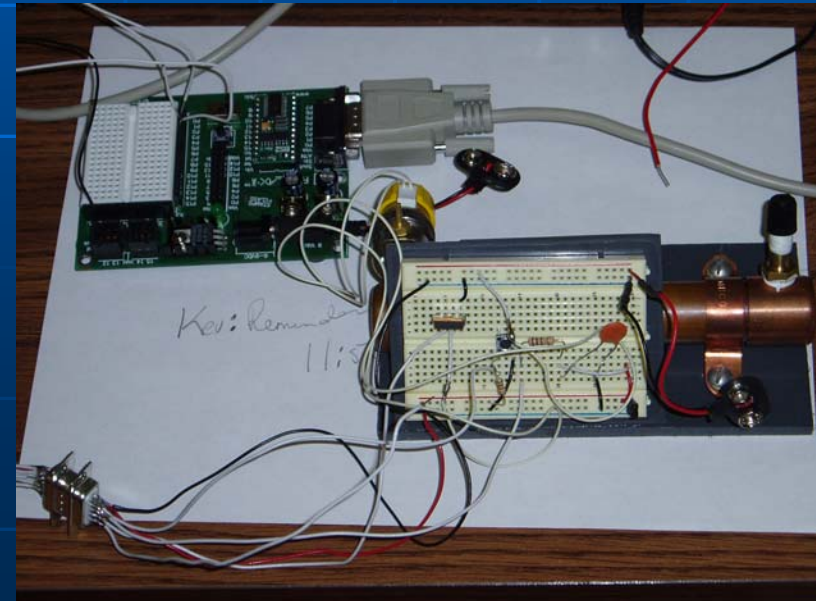
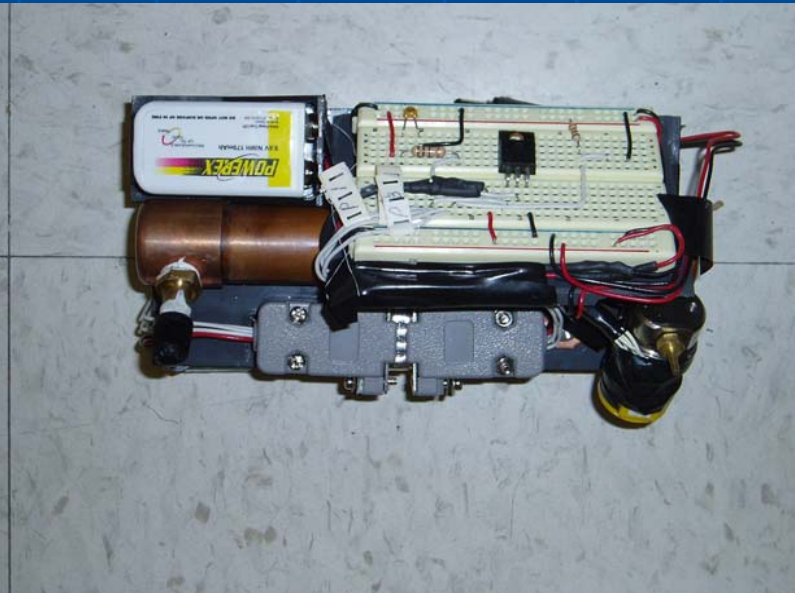
- Cut PVC pipes in pieces 23cm. & 24cm.
- Drill holes in a circular fashion at one end of the pipe (not holding BOE)
- Drill one hole at the end of another pipe to accommodate the BOE
- Drill one hole for the hose
- Use silicone to seal spaces

Building the Robo Submarine

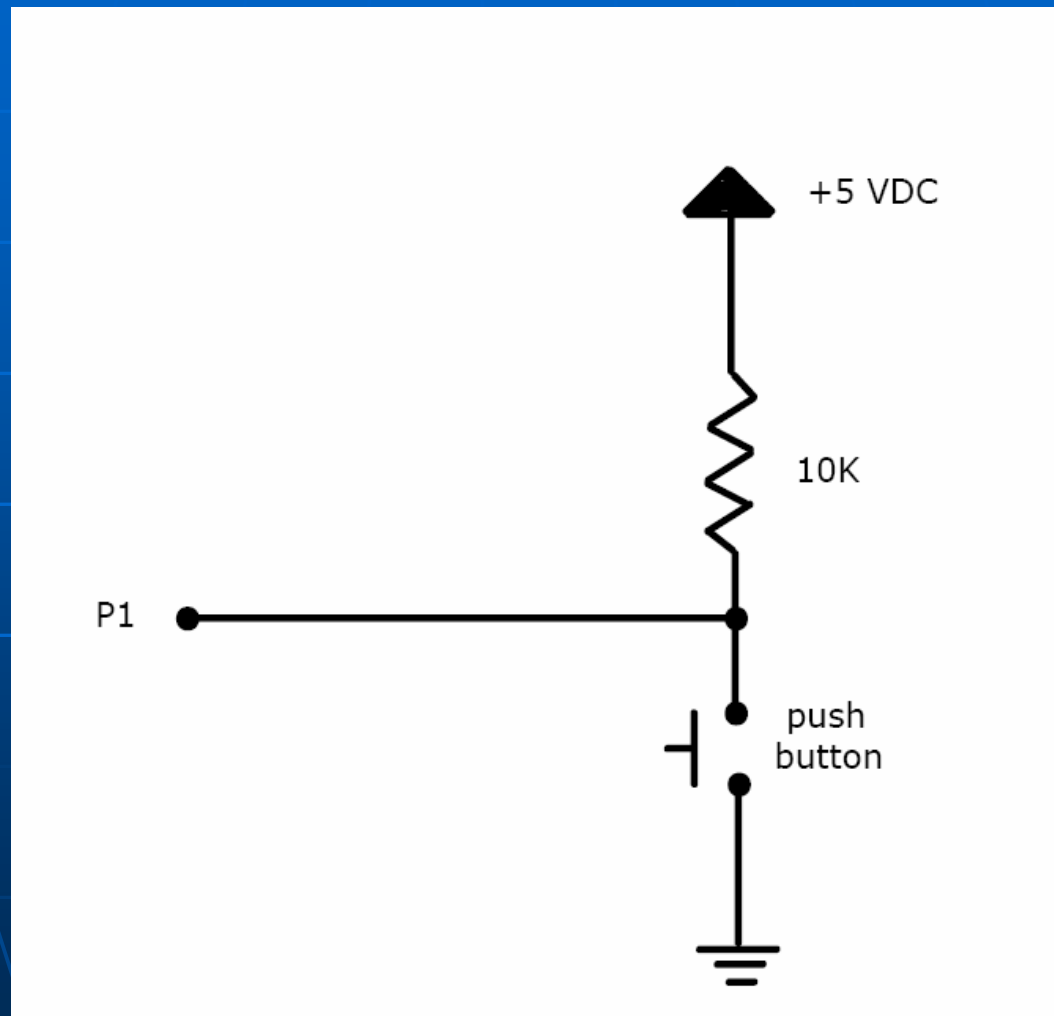


Programming

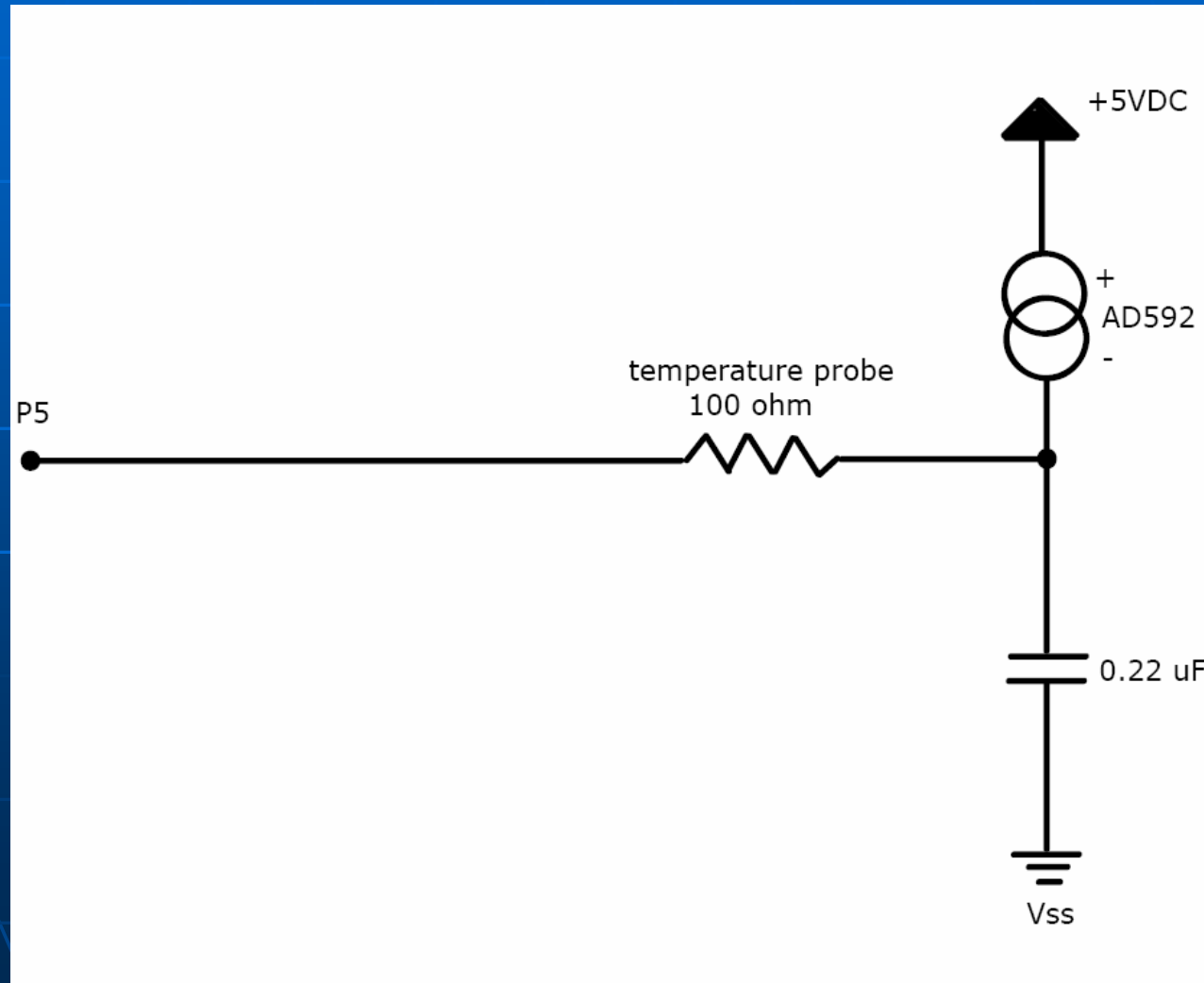
- The following was needed:
- Temperature probe
- Push button



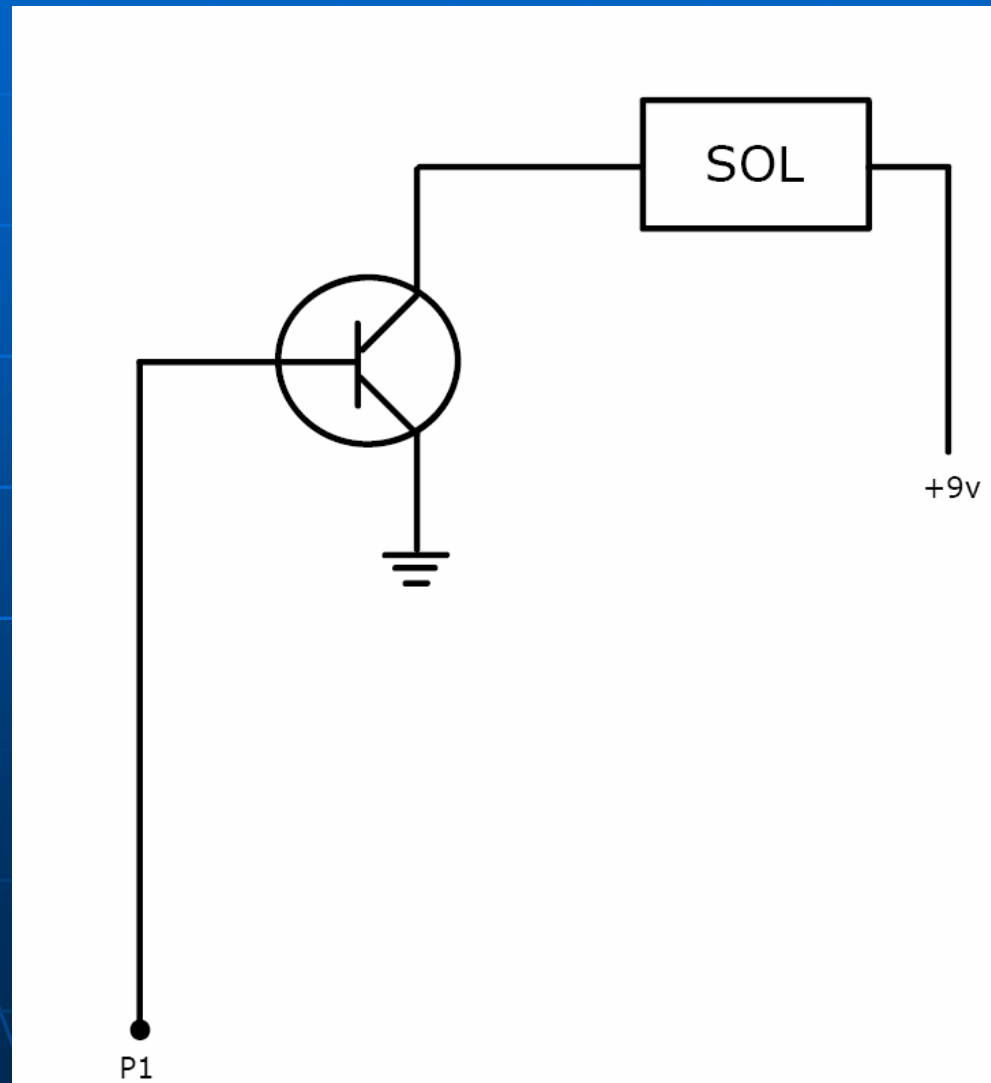
Button



Temperature Probe



Transistor Solenoid



Testing the Robo Sub

- Swimming pool at St. Francis
- Tank in lab
- Can 3ft.7in. High , Diameter 3ft. 4in.*



Conclusion

The Robo Sub. Will be able to perform the following functions:

1. Descend into a body of water
2. Stay for a set period of time
3. Collect data
4. Store data



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Questions and Comments?

