

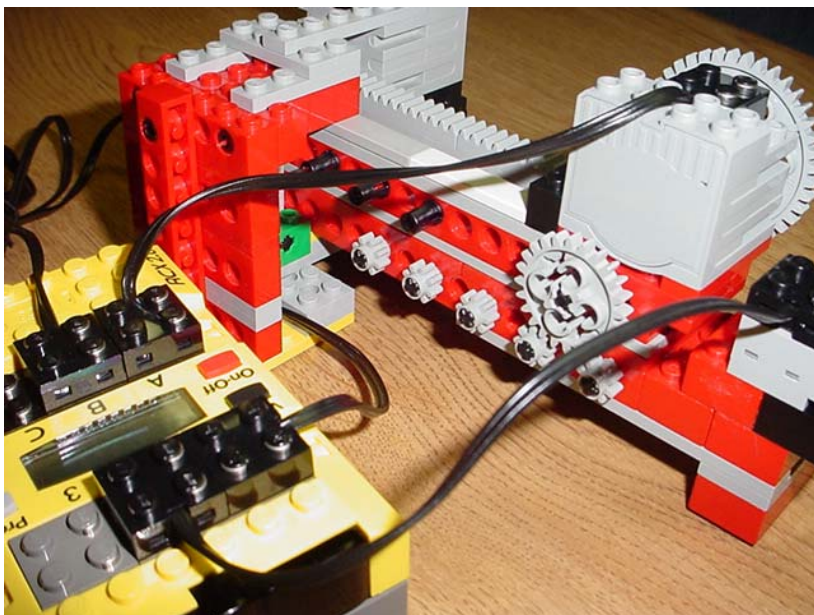
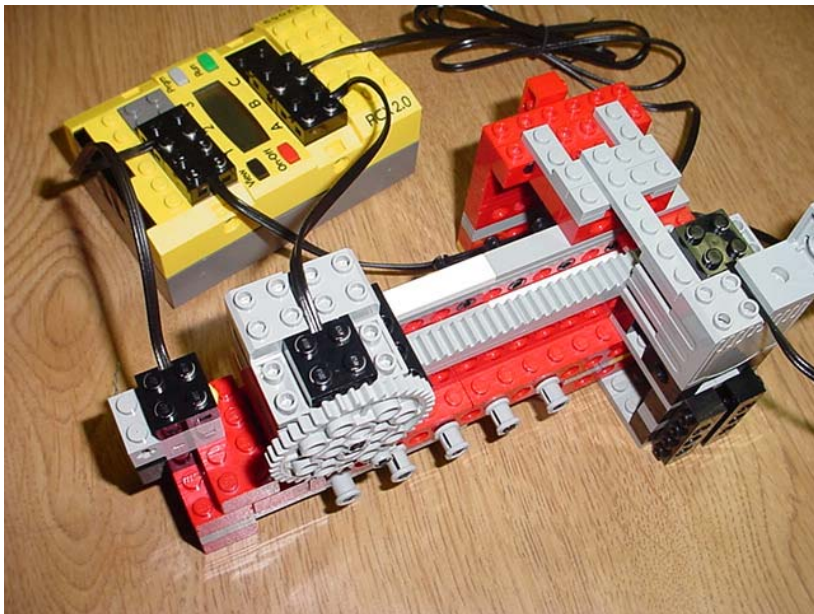
BE1010 - Fall 2004

Prof. Mohamad Hassoun, WSU

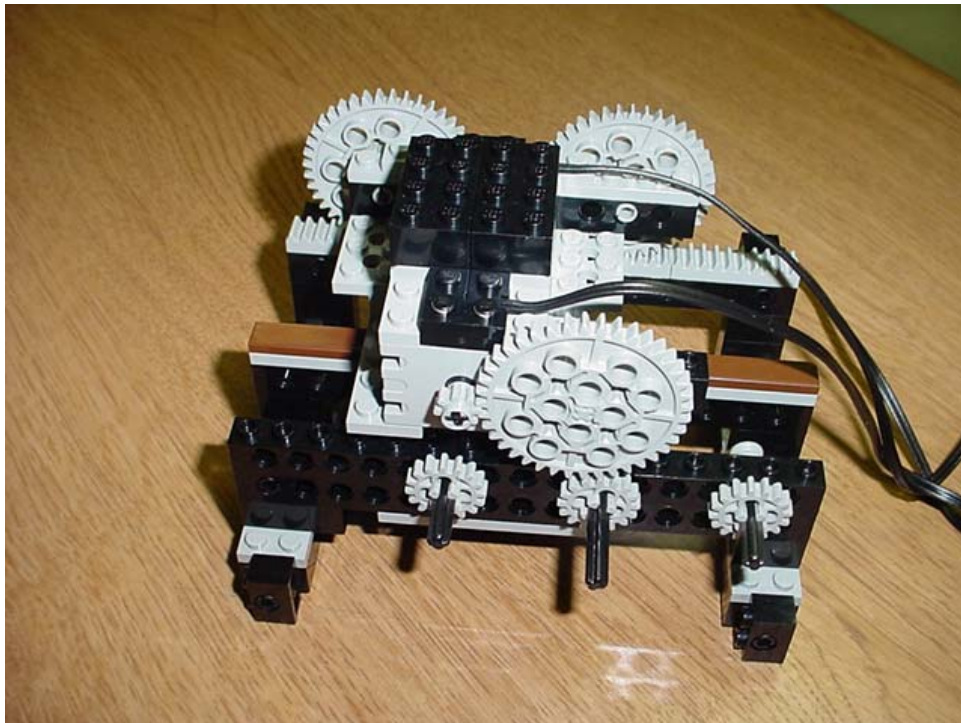
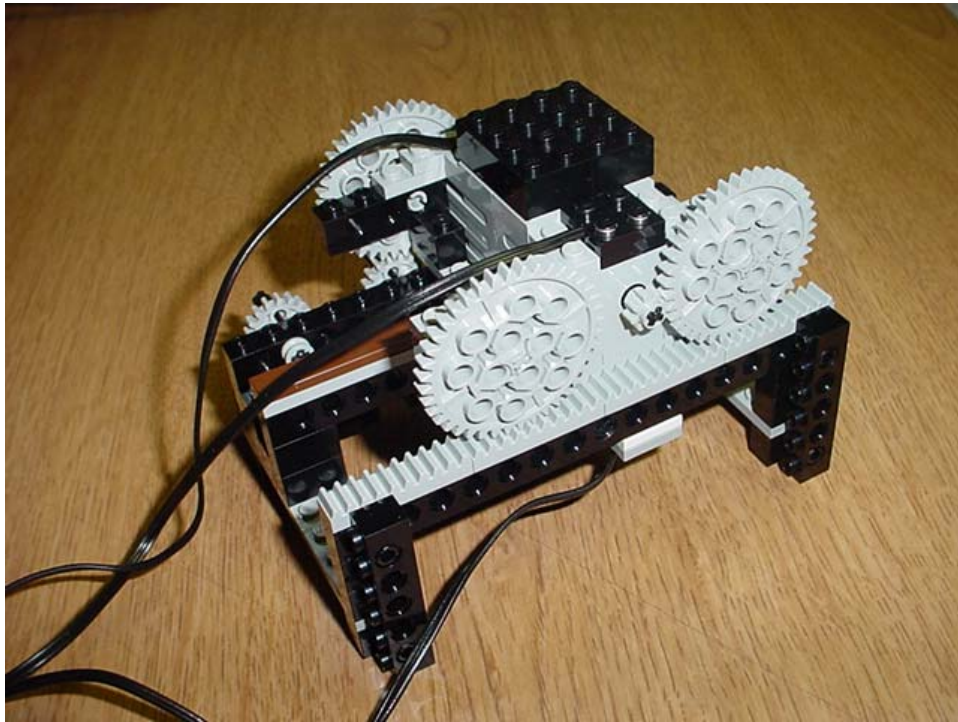
Quiz # 12 [Take home; team effort*]

Implement and program a Lego robot that switches a motor among three or more output axles. Extra Lego components may be obtained from your TA. Hint, you may base your design on the setup shown in Ferarri's book, p. 176.

Solution contributed by Team 8a (MONKEY_WRENCH): Binta Demba, David Fobar, and Jason Sauerberg:



An alternative design (contributed by TA Robert Bellair)



Program by Robert Bellair:

```
#define LEFT_SENSOR_2
#define RIGHT_SENSOR_3
#define LOCATION_SENSOR_1
task main()
{
  int x;
  SetSensor (SENSOR_1, SENSOR_TOUCH);
  SetSensor (SENSOR_2, SENSOR_TOUCH);
  SetSensor (SENSOR_3, SENSOR_TOUCH);
  SetPower (OUT_A,2);
  x=0;
  while(true)
  {
    if(LEFT==0)
    {
      if (x==0)
        {Off(OUT_A);}
      if (x>0)
        {OnRev(OUT_A);
          Wait(10);
          until (LOCATION==0);
          Off(OUT_A);
          x=x+1;}
    }
    if (RIGHT==0)
    {
      if (x==2)
        {Off(OUT_A);}
      if (x<2)
        {OnFwd(OUT_A);
          Wait(10);
          until(LOCATION==0);
          Off(OUT_A);
          x=x-1;}
    }
  }
}
```