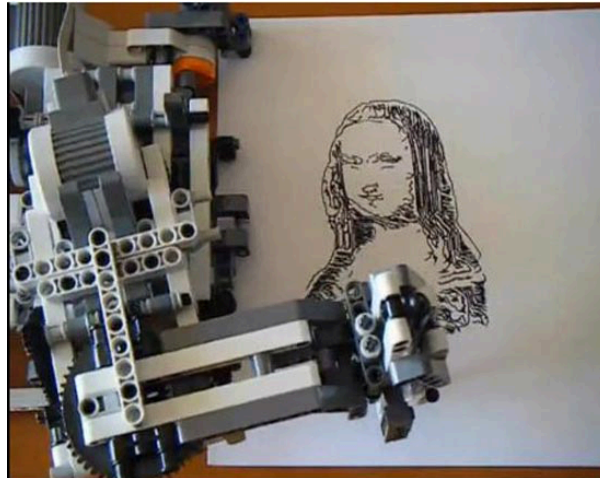# Lego Mindstorm Project

Overview:
In this project you are going to design a robot that uses motors and sensors to do something amazing of your choosing! This project will be divided up into 3 sections: Design, Mechanics, Program. Whatever you create shouldn't be something we've done before in class and can't look just like your robot from previous lessons.

Ideas:
- Without using the internet, come up with **two possible** ideas for mechanical objects you would like to create or emulate using your Lego Mindstorm kits.
- Next, you need to find **one more idea** for a project. You may use the internet to find a project you're interested in, but you can think of one more if you would prefer.
- Before you write an idea down make sure it will use at least
    - An input sensor
    - A motor
    - A while loop, a function, and an if statement
- On a sheet of paper, write down your 3 ideas at the top. Write a few sentence evaluation of each project that includes the pros and cons of each. (9 points)_____

Design:
- Choose the one you would prefer to build. Flag down Mr. Slagle and get his approval.
- Write a final paragraph explaining why you chose this project over the others. This paragraph should clearly explain the purpose of your robot. Explain how your robot will accomplish this purpose. (3 points)_____
- Draw a quick sketch of what you want your robot to look like that demonstrates its general form. (4 points)

1 points	2 points	3 points	4 points
The image drawn was rushed and demonstrates little helpful information	Basic form is present but it doesn't resemble something buildable.	Image portrays the idea but lacks the finished appeal.	The image portrays what the robot does and how you might build it. Image looks orderly and thought out.

Robot Mechanics:
- Completely deconstruct your previous robot if you haven't already. By doing this, it makes completing previous work difficult.
- Create a new robot to accomplish your purpose describe in your plan from above. This robot should…
  - have all parts attached to a rigid and free-standing frame (1 point_____)
  - be sturdy (2 points_____)
  - not compromise the integrity of any lego pieces (1 point_____)
  - be clearly dedicated to the task/purpose described in your plan

2 points	4 points	6 points
Robot only slightly represents its purpose	Robot represents its purpose but doesn't perform it correctly	Robot clearly accomplished plan

The Program:
- Create a flowchart that clearly portrays what your robot should do prior to programming. Each step of your flowchart will eventually become a RobotC structure. This flowchart should also include every decision it will make, what piece it will use to make the decision, and what parameters will be the deciding factor (reflected light intensity, sound, changing variable, etc.). This flowchart should be approved prior to writing the program. (5 points)
- You successfully turn your flowchart into a RobotC program. (10 points)
  - 10 points: Your robot successfully accomplished the task/purpose with no doubt.
  - 8 points: Your robot accomplished the task, but doesn't do it perfectly.
  - 6 points: Your robot almost accomplishes the task.
  - 4 points: Your robot completes a portion of the task.
  - 2 points: Your robot does some things, but they aren't what you want.
  - 0 points: You don't write a program.

Total: /41