

# HOMework WRITING MACHINE

Mr.R.Augustian Isaac,Asst.professor,  
Amit Kumar Singh, Prateekshit Tamta and Gaurav Singh

Department of Computer Science and Engineering  
SRM Institute of Science and Technology  
Ramapuram, Chennai, Tamil Nadu - 600089

## Abstract

*Homework composing machine is programmed composing machine use for the composing any kind of content and drawing any outline on paper. Homework composing machine is working like a CNC machine. This Machine is chipping away at 3 pivot (X, Y, Z). This three pivot movement is given by stepper engine and servo engine. It is an extremely valuable item and can be utilized in everyday life to endeavor more less demanding and is exceptionally useful for school and school going understudies and extremely helpful for the corporate world moreover.*

## Introduction

The present open record for every one of the exchanges and that at any point occurred in the system, the development is steady and the extent of the system likewise develops in parallel. The record is ethical and can without much of a stretch convey on the arrangement of substances of the entire framework surrendered to the lack of interest. Homework composing machine is an auto composing machine through which you can make your work simple by programing your venture. According to the title this is a straightforward task utilizing Arduino to make Homework composing machine at your home. This machine can draw any outline and compose any sort of fonts. You can see sharpness and flawlessness of writing in photographs. The machine utilizes a gantry to move the composition tip along the X on an and Y tomahawks. The flexible-nib pen is mounted servo engine which turns the tip onto the composition surface, dealing with the third hub.

## Project Description

**Servo Motor:** A servomotor is a rotating actuator or direct actuator that takes into consideration exact control of precise or straight position, speed and acceleration. It comprises of a reasonable engine coupled to a sensor for position input. It additionally requires a generally complex controller, frequently a devoted module composed particularly for use with servomotors with 1 strung bar.

**Wood:** Wood is a permeable and stringy basic tissue found in the stems and foundations of trees and other woody plants. It is a natural material, a characteristic composite of cellulose filaments that are solid in strain and inserted in a grid of lignin that opposes pressure.

**Arduino uno:** Arduino is an open source PC equipment and programming organization, task, and client network that plans and fabricates single-board microcontrollers and microcontroller units for building advanced gadgets and intelligent articles that can detect and control questions in the physical and computerized world. The undertaking's items are conveyed as open-source equipment and programming, which are authorized under the GNU Lesser General Public License (LGPL) or the GNU General Public License (GPL), permitting the make of Arduino sheets and programming dispersion by anybody. Arduino sheets are accessible industrially in preassembled frame, or as do-it-without anyone else's help (DIY) units.

**Grbl shield:** The Arduino grblShield is an entire equipment answer for Dank's CNC movement control framework called grbl. Good with the Uno and other 328p variants of the Arduino advancement stage. (Note: grbl 0.6 isn't perfect with 168-based Arduinos (nor will it ever be), and currently grbl does not support the Arduino Megs).

**Driver motors:** Engine driver is a little ebb and flow speaker; the capacity of engine drivers is to take a low-ebb and flow control flag and after that transform it into a higher-ebb and flow flag that can drive an engine.

**9 gram servo:** A servomotor is a rotational actuator or straight actuator that takes into account exact control of rakish or direct position, speed and quickening. It comprises of an appropriate engine coupled to a sensor for position criticism. It likewise requires a generally refined controller, regularly a committed module composed particularly for use with servomotors Benbox programming.

## ARCHITECTURE

### Things Gathering

1. arduinonano. x1
2. L293D IC with Base connectors. x2
3. PCB board. x1
4. Computer DVD writers. x2
5. Some hard cardboard boxes.
6. 1ft.X1ft. plastic or wooden or metallic board.
7. Some wires.
8. soldering iron and wire.
9. Some male and female headers.
10. USB cable for arduino.
11. A pen with a strong string or thread which is flexible.
12. A micro 9g tower pro servo motor.

### Building X and Y Axis Carriages

Take out the stepper Motor from dvd essayist as in the image. You have to open 2 dvd authors painstakingly without harming anything inside it. Screw one carriage which contained the stepper engine to the 1ft.x1ft. board, this is the X-pivot engine carriage. Keep some hole for Y hub engine carriage to be set . Left most side of the X-hub carriage stick a cardboard box as in picture and make a long opening at the base of the crate with the goal that x pivot carriage plate can go inside the case. stick a plastic rectangular board to x pivot carriage as in picture which supports the paper to be put on it



Fig.1 building y carriages

### Circuit Building Process

Place the female headers on PCB board as per the quantity of pins on either sides of arduino and trim abundance and bind that female headers to the one side of the PCB board. and furthermore weld the IC bases to a similar board. Furthermore,

patch the wires wherever required by investigating the above circuit picture. also, weld 3 pins of male header to a similar board to encourage the servo association will be stopped and unplugged effortlessly.

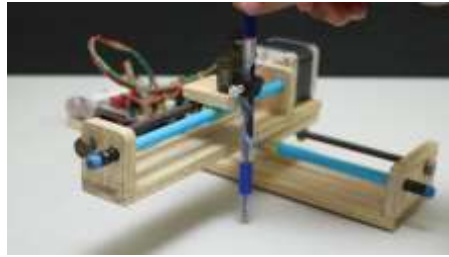


Fig.2 circuit building process

### Finalizing and Start Writing the Things

You can influence this gadget to compose your preferred things simply in the wake of composing the gcode. Try not to stress over gcodemuch,. since we will utilize a product to change over the required picture or content into .gcode record, and afterward gushing the .gcode document utilizing another product called Processing. I will give the immediate connects to download the Processing and Ink-space programming so you can crete your own .gcode records and stream at whatever point you wish. Also, the arduino code which you needto transfer to your arduino board for the last time.



Fig.3 wiring of pen

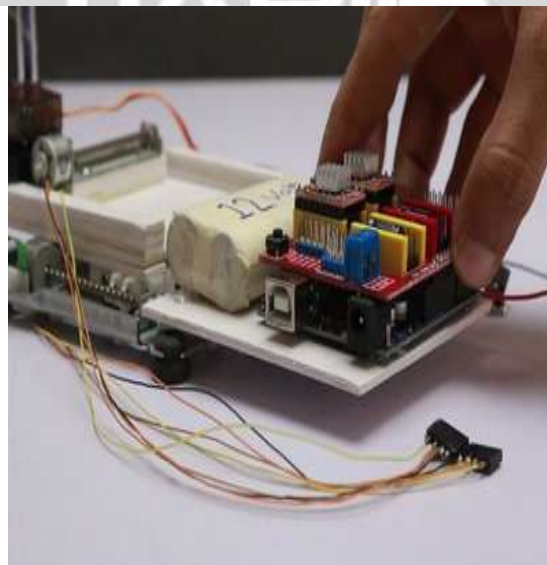


Fig.4 connection of aurdino board

## CONCLUSION

This commitment to the home work composing toolbox goes for giving a fit numerical programming to displaying and control of home composition machine. This instrument could be utilized by the network for outline and quick composition process. The methodology tries to be conventional and could be connected for different state of home composition machine and (for the present) two sorts of actuators: links (ligaments) and pneumatics. The diverse advances pursued to fabricate a numerical model of a home work composing machine are portrayed in an instructional exercise utilizing a case of a delicate gripper as of late proposed in the network. Some additional examples are provided to show the other features of our software.

## FUTURE WORK

The home composition machine is a helpful unit for composing reason. The vast majority of the individual doesn't know about this instrument home composition machine can be make and simple entangled composition process and it can make it more successful.

In future in the event that we ready to interface this machine to the quick composition speed like xerox machine then it will be more successful and will have the capacity to more number of pages in a brief span.

## Reference

Gale, Floyd C. (August 1959). "Galaxy's 5 Star Star Shelf". *Galaxy Science Fiction*. pp. 138–142. Retrieved June 14, 2014.

- "Danny Dunn and the Homework Machine". Scholastic Press. Retrieved November 15, 2010.
- "Books Illustrated by Keats". Ezra Jack Keats Foundation. Retrieved November 15, 2010.