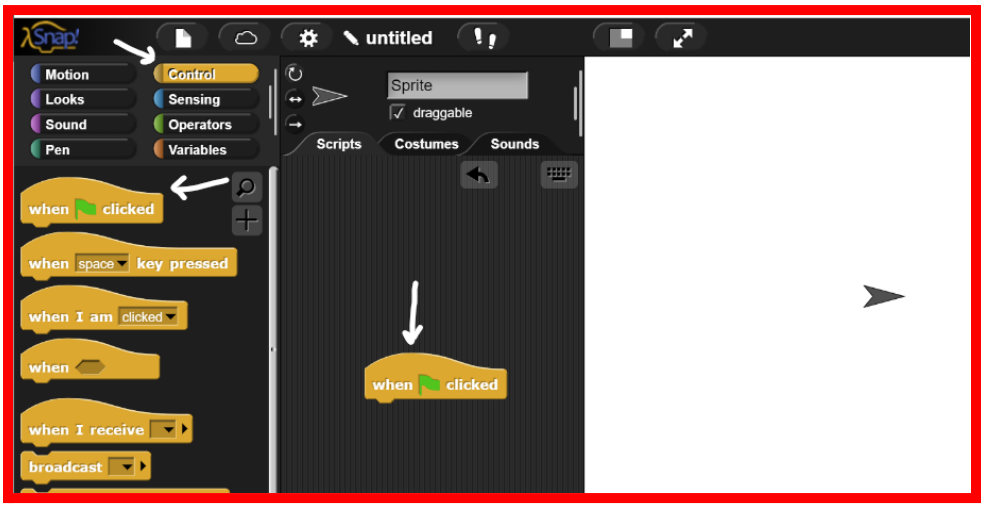
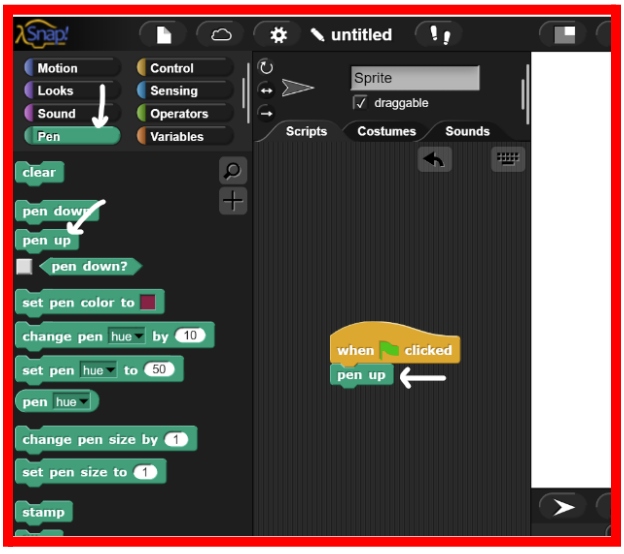
Beginners Tip With Coding: With each code change make sure to run the program to see how it acts. This will help with debugging. Debugging is a practice in computer programming where you identify an error and troubleshoot to fix it so the program runs smoothly. Running the program often to see how it acts makes troubleshooting an error way easier than waiting till all code changes are made. This is the only green box you are required to read the other green boxes with information on the concepts applied in this activity taken conceptually further.

Access snap through this link : https://snap.berkeley.edu/snap/snap.html
Link to final project:
https://snap.berkeley.edu/snap/snap.html#present:Username=barrettb2&ProjectName=DrawingACode&editMode&noRun

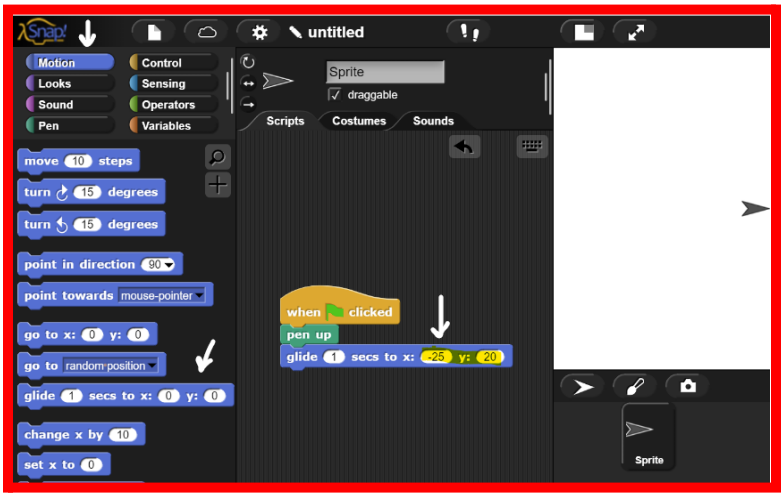
1. Click on the control section and pull the when green flag clicked block into the center of the console.



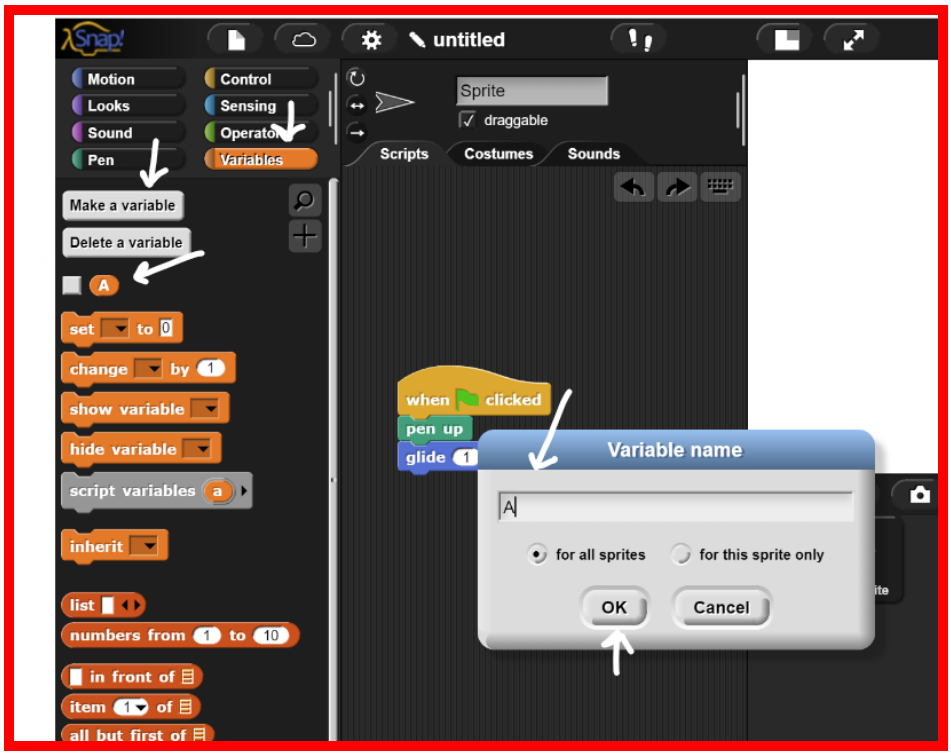
2. Click into the pen section and pull the pen up block to the center of the console and attach to the when green flag clicked block.



3. Click the motion tab and pull the glide block in the snippet below to the center of the console and attach to the pen up block. In the glide add the coordinates (-25 , 20).

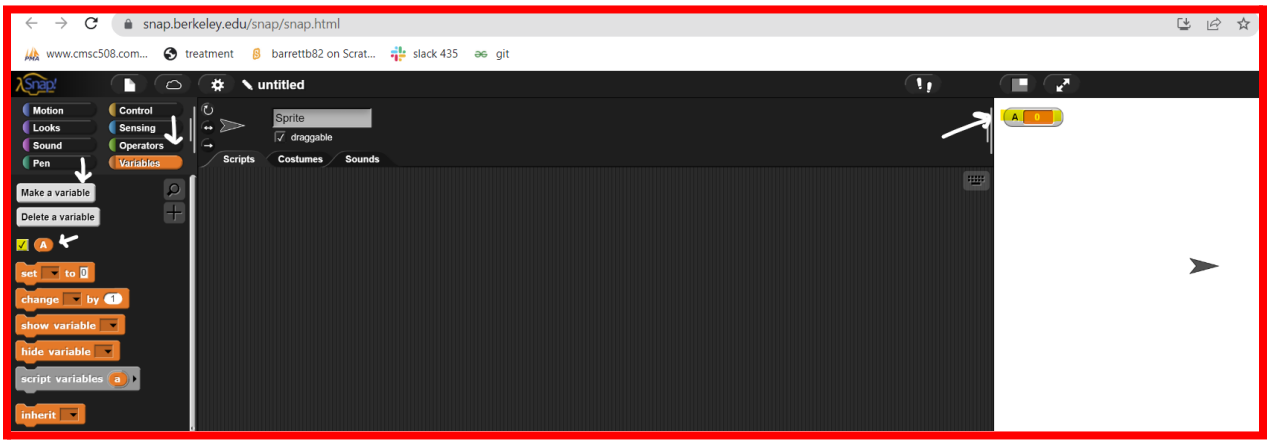


4. Click into the make a variable block when prompted variable name enter A and click okay. Once a variable is made, unclick the box on the left of the variable which will be stored in the left toolbar.

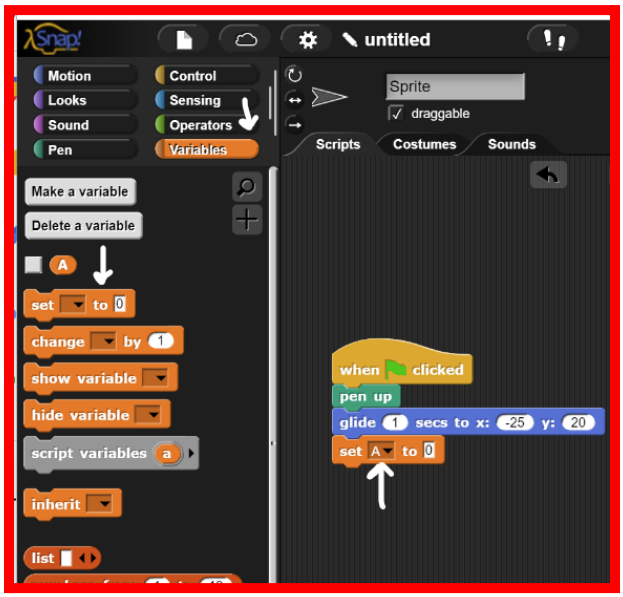


The reason why we uncheck the box is to not have the A variable appear on the console screen as depicted below. Clicking on A can help the programmer ensure that the right value

is stored in the variable made. But should only be used for testing processes not shown all the time.

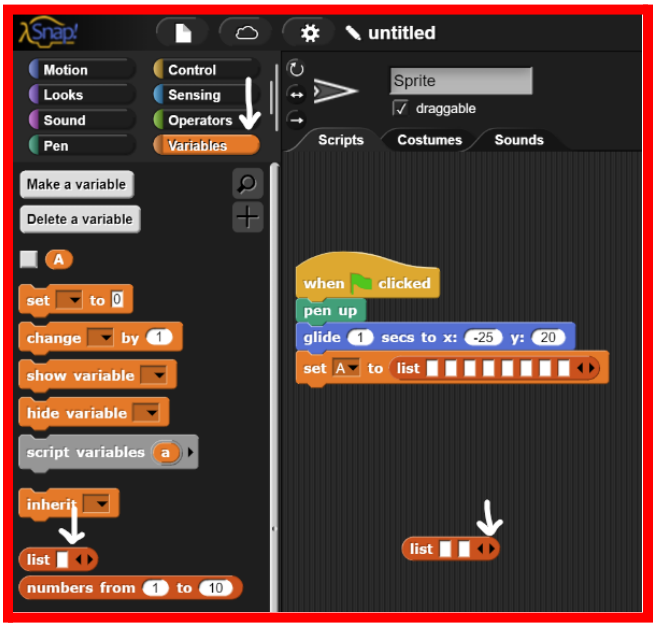


5. Click into the variables block and drag the set block to be connected to the glide block. When attached click on the upside arrow in the rectangle box on the right of the set block and change it to A.

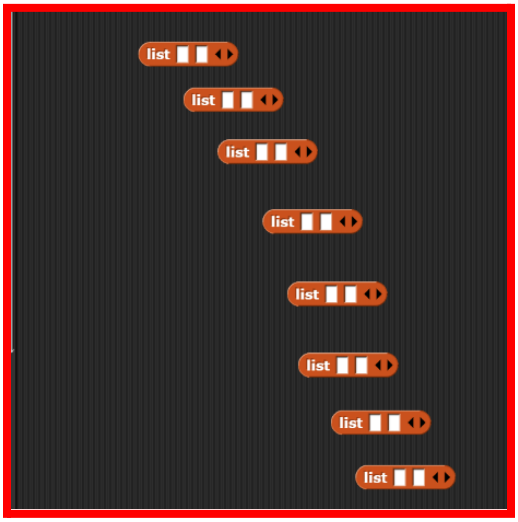


6. Click on the variable category and pull the list bubble in. Press the right arrow 8 times.

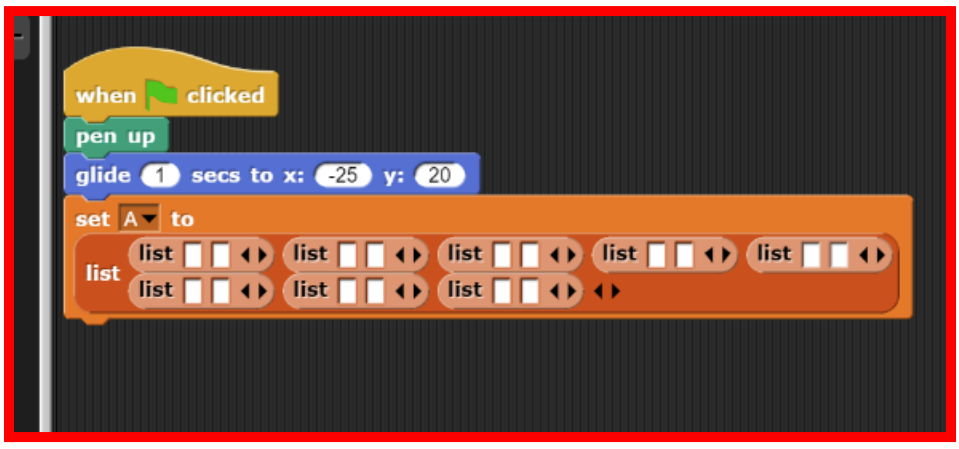
7. Click on the variable tab and pull the list bubble in the center console. Press the right arrow to make two rectangles on the right of the list.



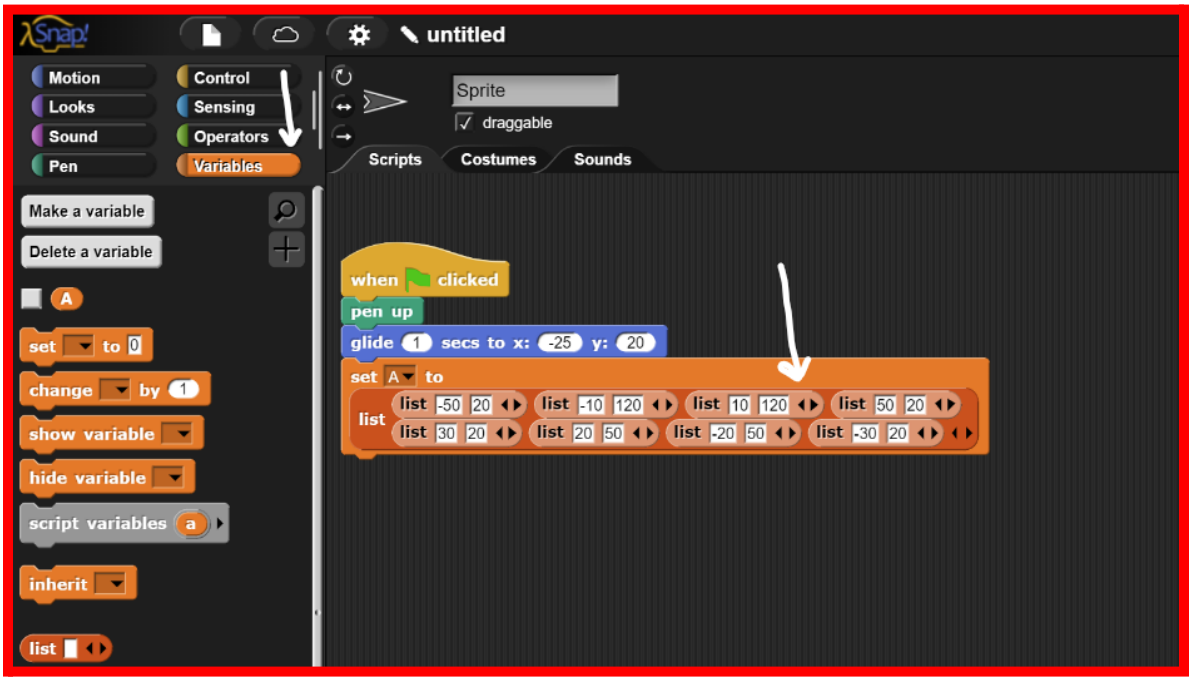
8. Go on the list bubble and right click on the bubble and press duplicate to make 8 of the blocks.



9. Drag each list into the 8 spaces made into step 7.

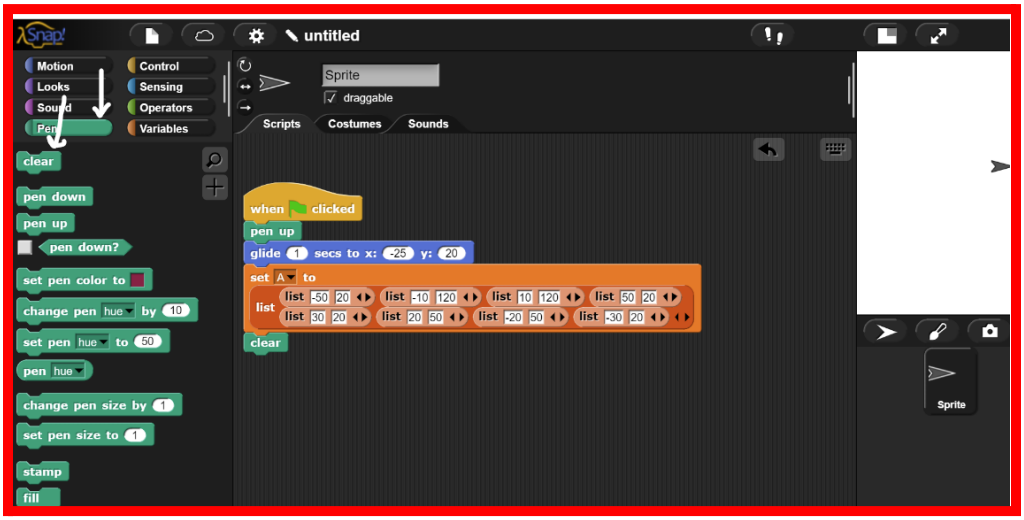


10. In each white space write (-50, 20), (-10, 120), (10, 120), (50, 20), (30, 20), (20, 50), (-20, 50), (-30, 20).

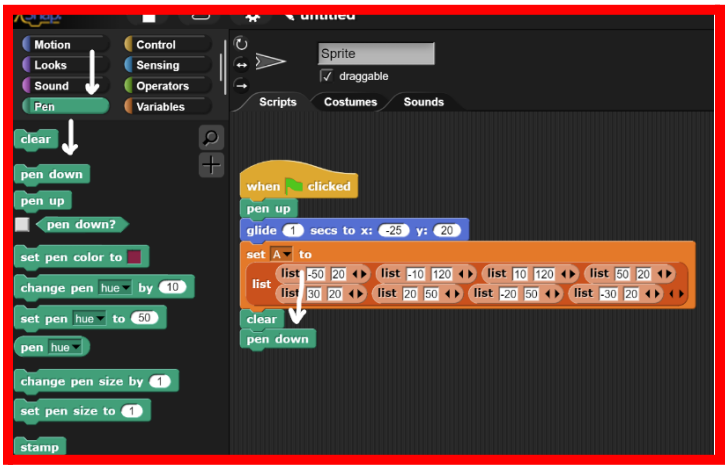


The reason why there seems to appear a reflection in these values is because the block letter A that we are creating is symmetrical. If we were to draw a line vertically through the A the image would be mirrored on each side. This step is simply establishing the points that compose the block letter.

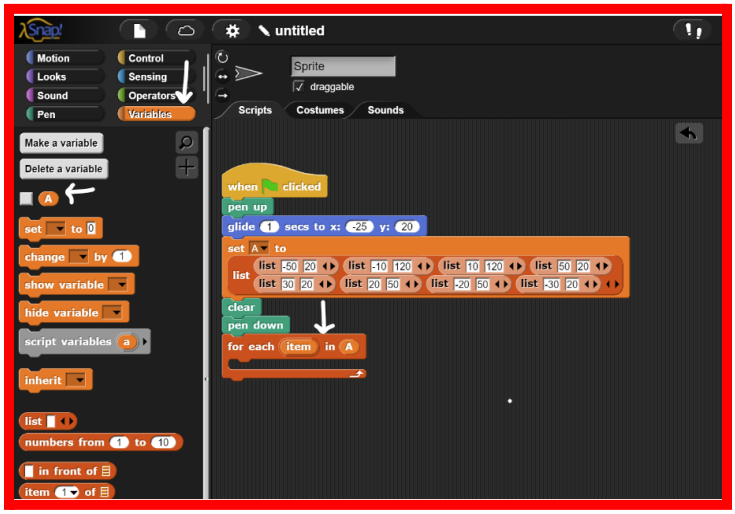
11. Go to the pen category and drag the clear block under the set block.



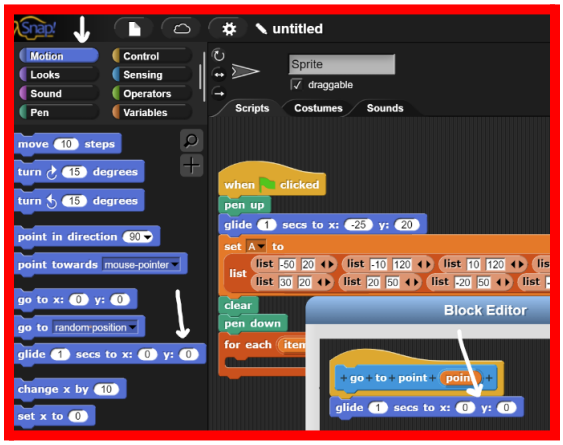
12. Go to the pen category and drag the pen down under the clear block.



13. Go to the variables category and drag the for each block under the pen down block. Drag the variable you created in earlier steps A in the circle inside the for each block.

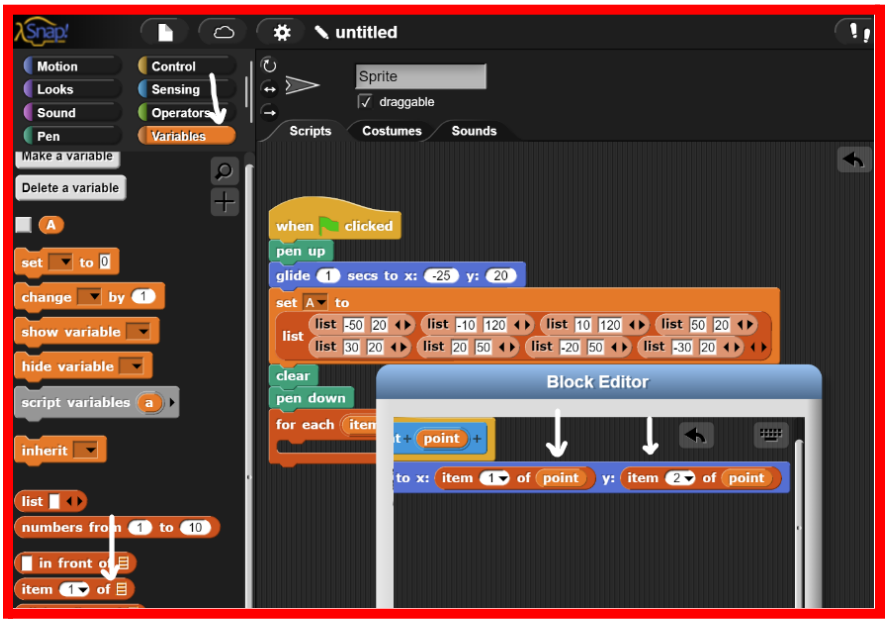


14. Go to the sensing category and click make a block in the block type “go to point” press okay. After making the block “go to point” we will be doing the remaining steps in the block editor. Press the plus arrow on the right of the point work. Type in the text box point. Then go into the motion category and drag the glide block under the created block.



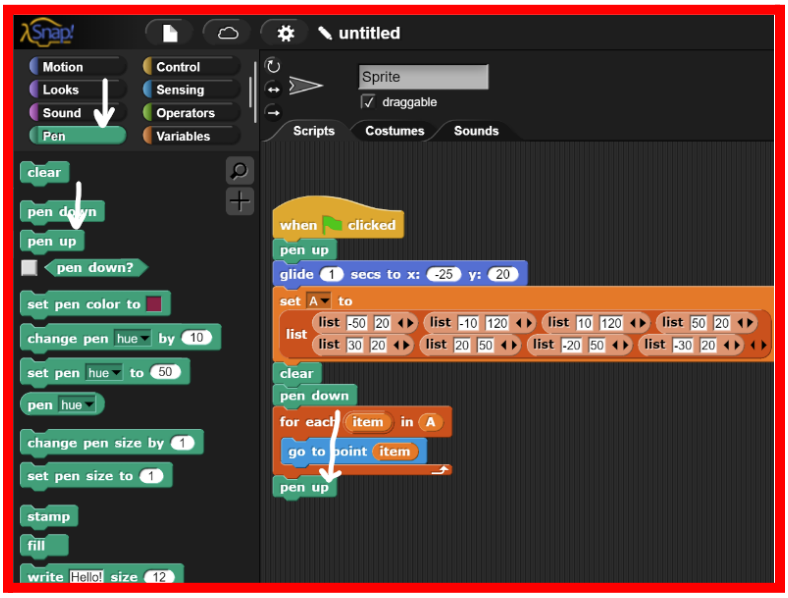
Reminder: Steps 14 and 15 are to be completed within the block editor.

15. Go to variables and put two item blocks in the x and y. Then press on the circle in the second item to the blank value and enter 2. In addition drag the point variable in the top block in each item block after the “of”. Then press ok.

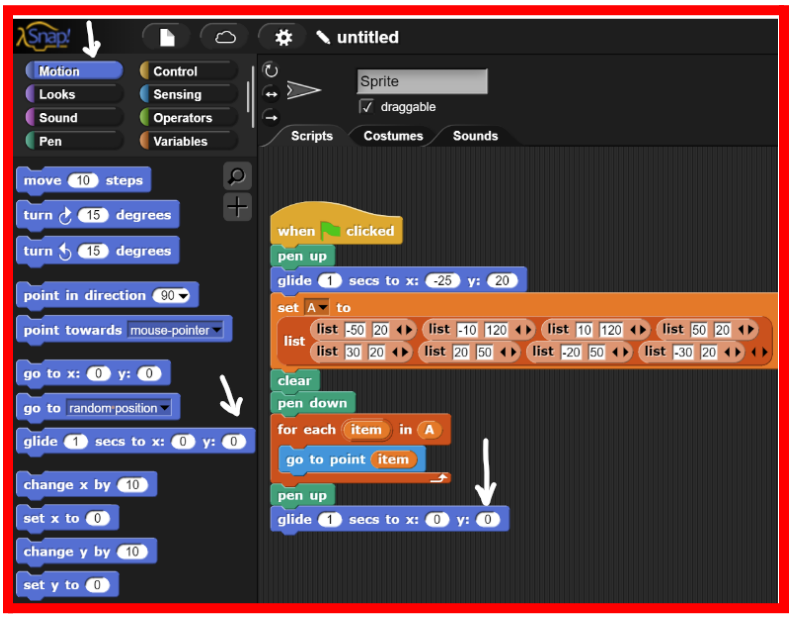


16. Then go to the sensing category and pull the go to point block into the for each block. Pull the item variable into the rectangle in the go to point block.

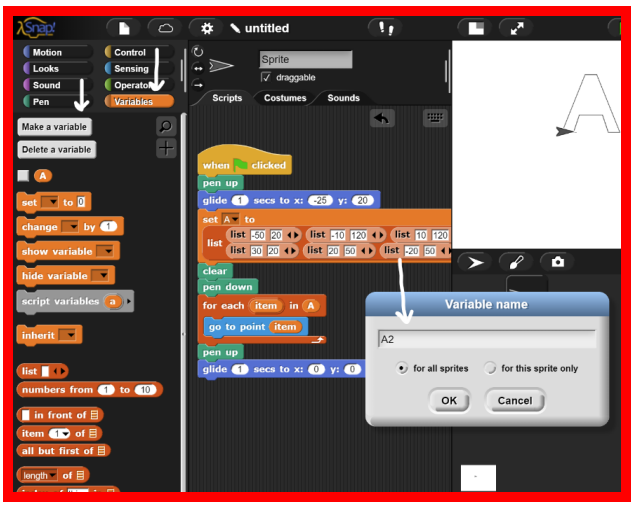
17. Then go to the pen category and drag the pen up block attached to the for each block.



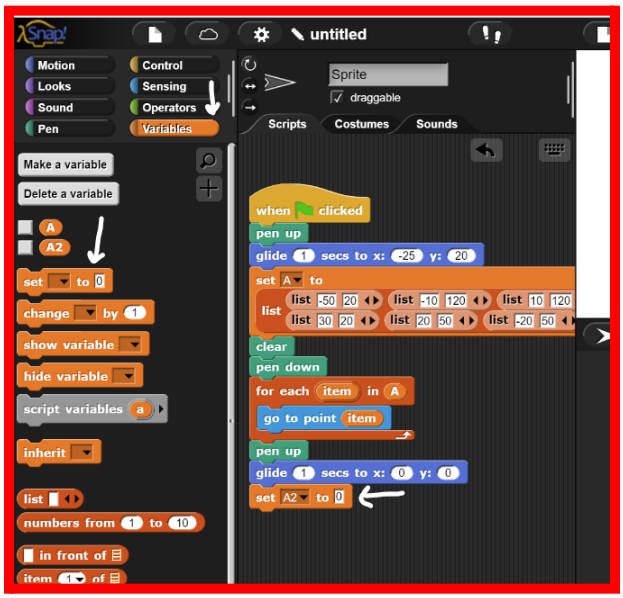
18. Go into the motion category and pull the glide block to attach to the bottom of the pen up block.



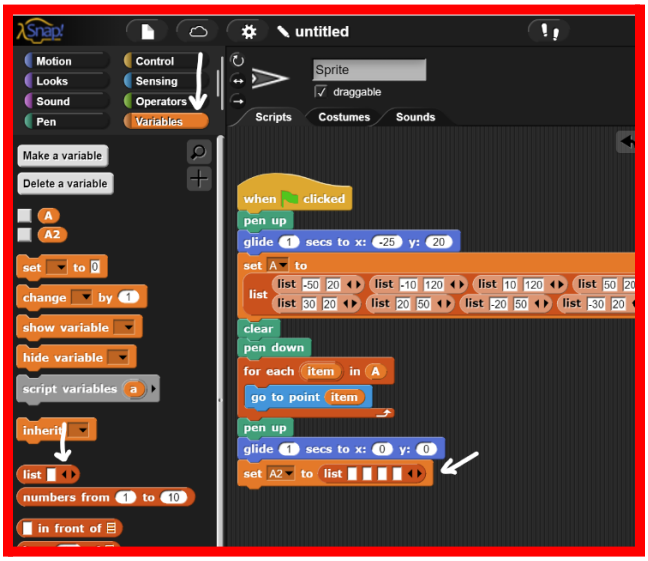
19. Click into the make a variable block when prompted variable name enter A2 and click “ok”. Once a variable is made, unclick the box on the left of the variable which will be stored in the left toolbar.



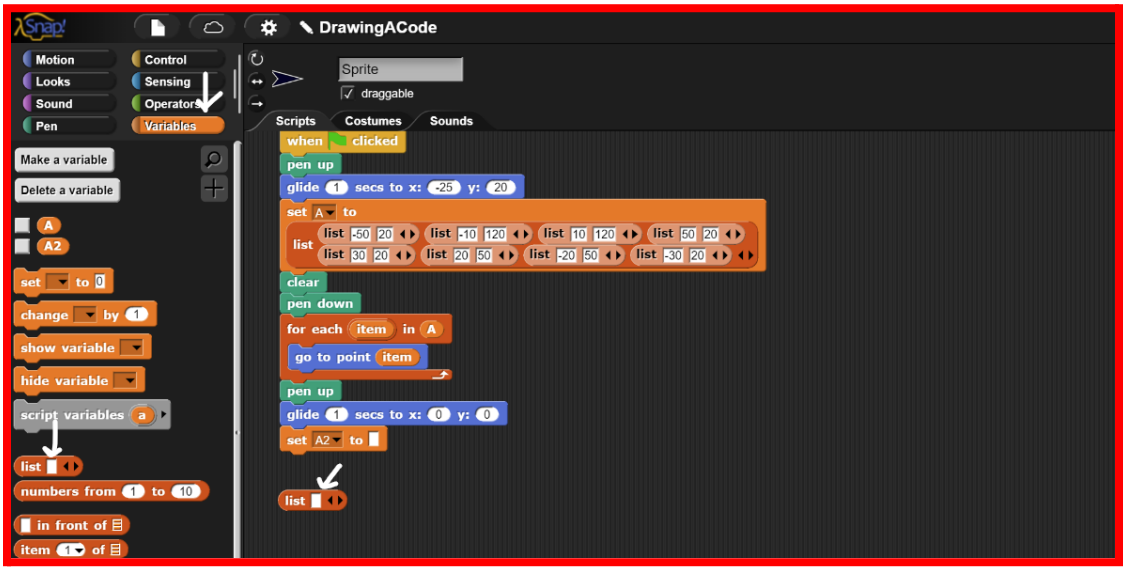
20. Click into the variables block and drag the set block to be connected to the glide block. When attached click on the upside arrow in the rectangle box on the right of the set block and change it to A2.



21. Click on the variable category and pull the list bubble in. Press the left arrow 4 times. Then place the list bubble made in the 0 place in the set block.

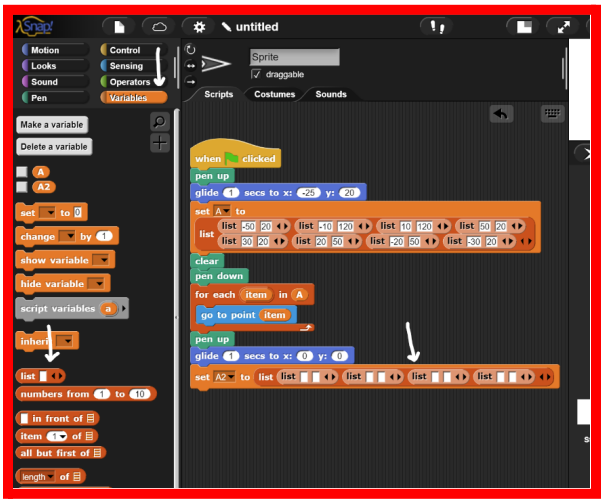


22. Click on the variable category and pull the list bubble in the center console. Press the right arrow to make two rectangles on the right of the list.

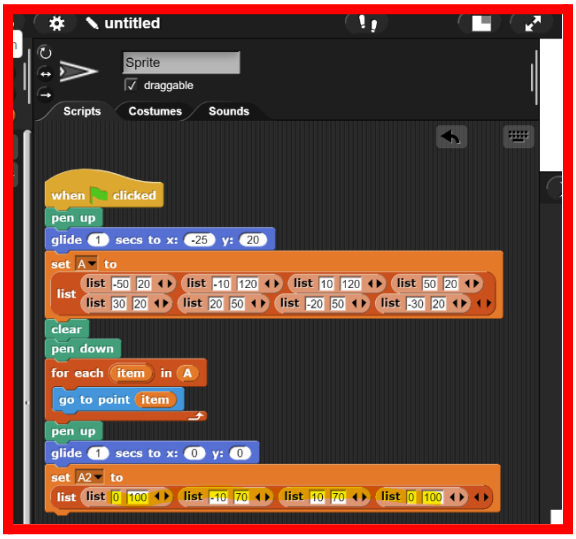


23. Go on the list bubble and right click on the bubble and press duplicate to make 3 more of the blocks.

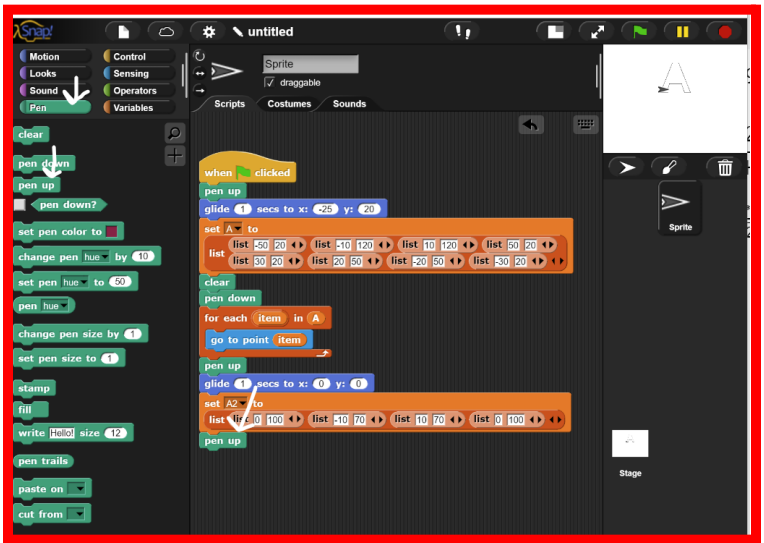
24. Drag each list into the 4 spaces made into step 20.



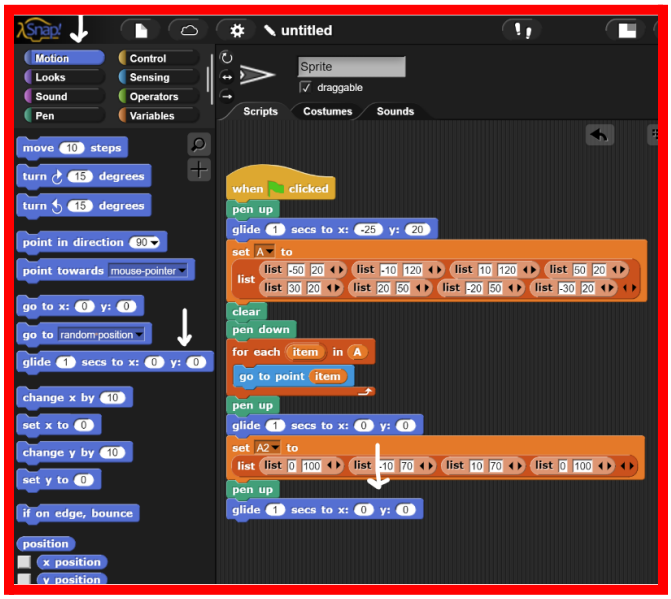
25. In each of the blanks fill in the values picture below. Starting from left to right (0, 100), (-10, 70), (10, 70), (0, 100).



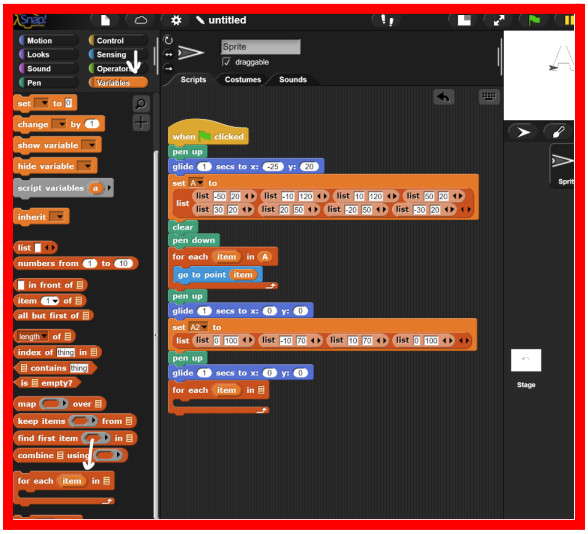
26. Then click the pen tab and drag the pen up block to attach to the set A2 block.



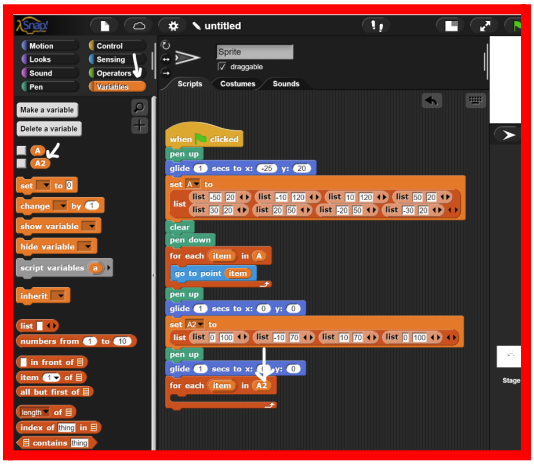
26. Go into the motion category and drag the glide block to go after the pen up block.



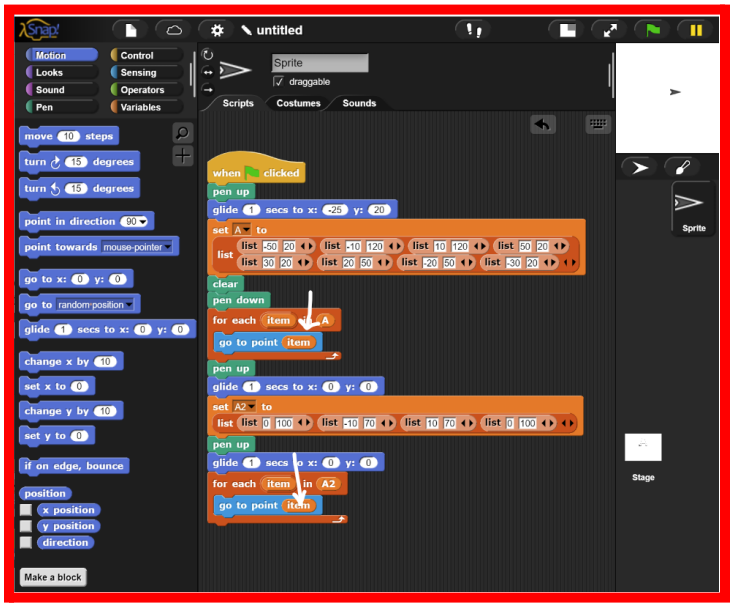
27. Then go into the variable category and attach a for each item block after the glide block.



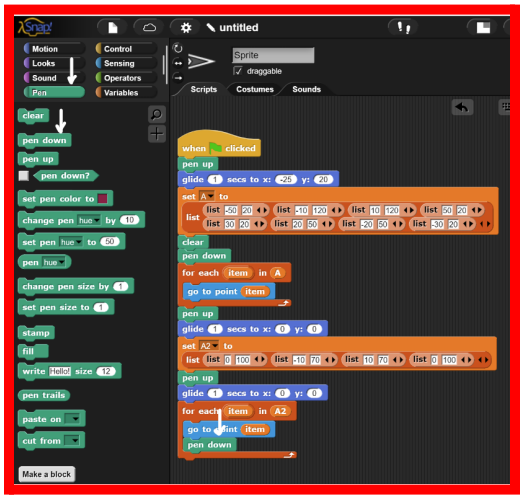
28. Drag the A2 variable that is stored in the variable category into the rectangle that is in the for each block.



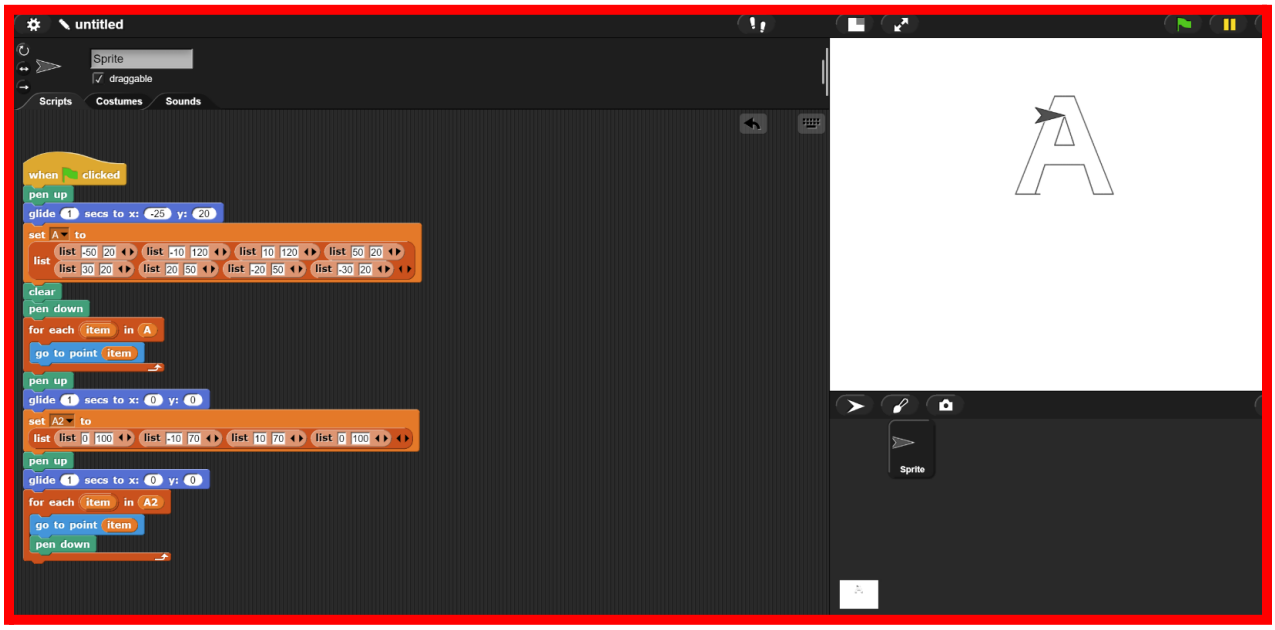
29. Go to the part of the code where we made the go to point item and right click on the block and select duplicate. Take the duplicated block and drag it in for each loop.



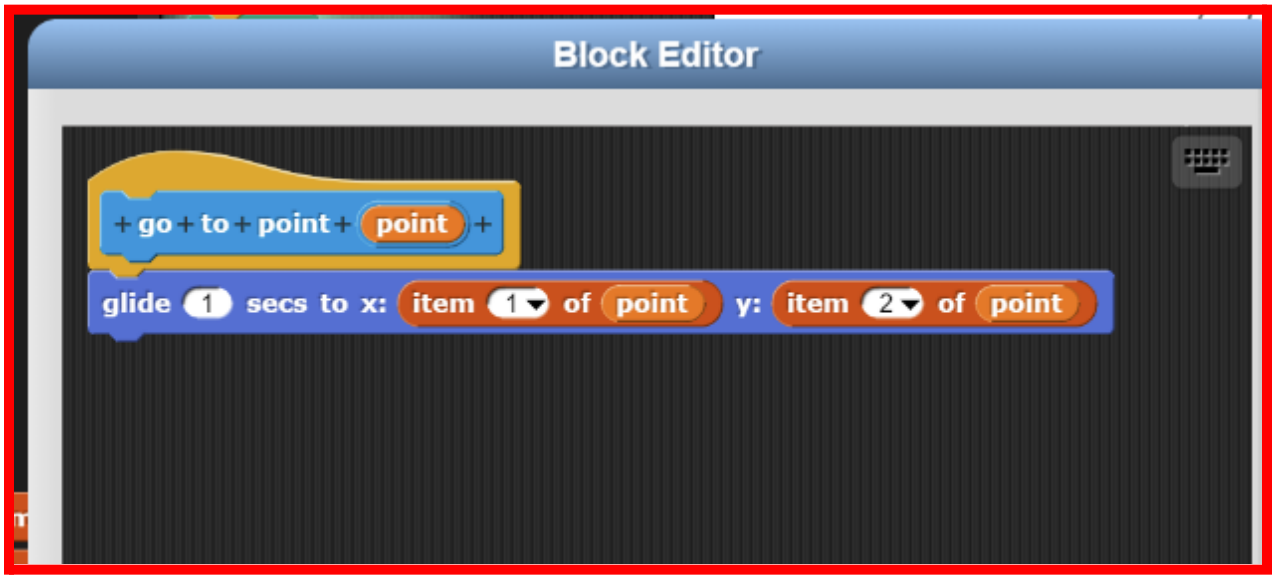
30. Go into the pen category and drag a pen down block to fall after the go to point item block inside the for loop.



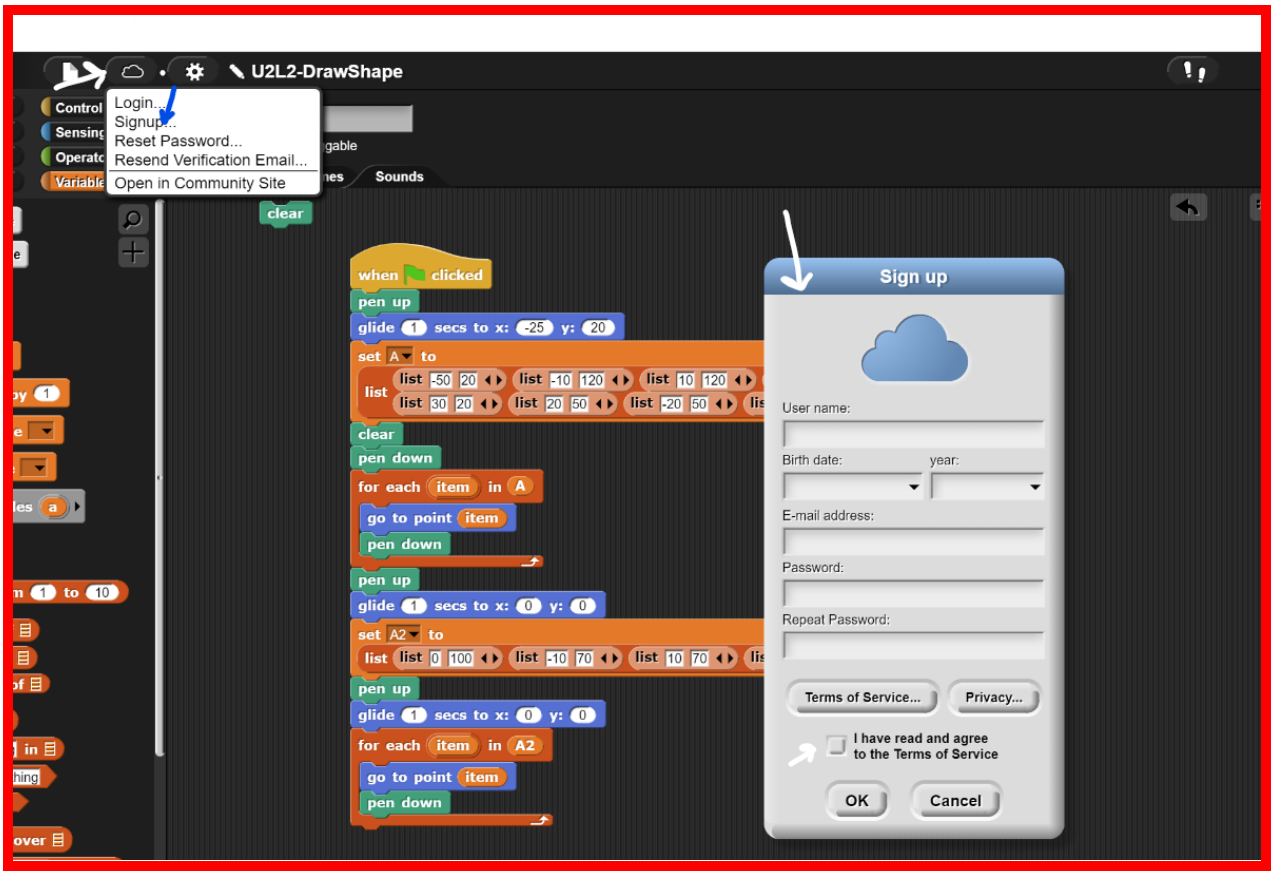
Final Snippet of Code:



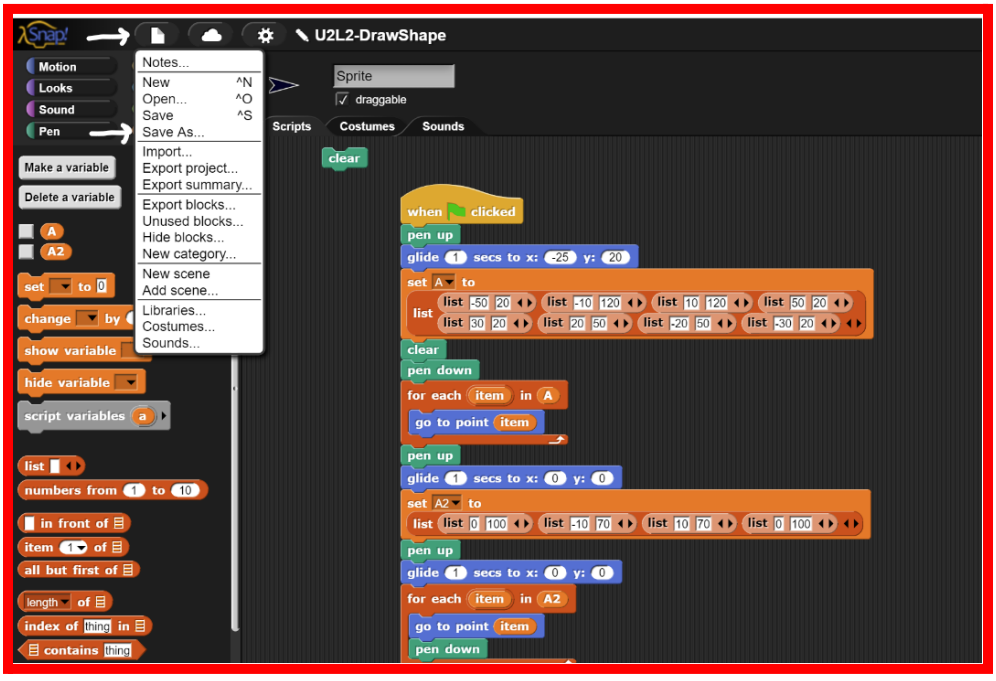
Snippet of go to point block:



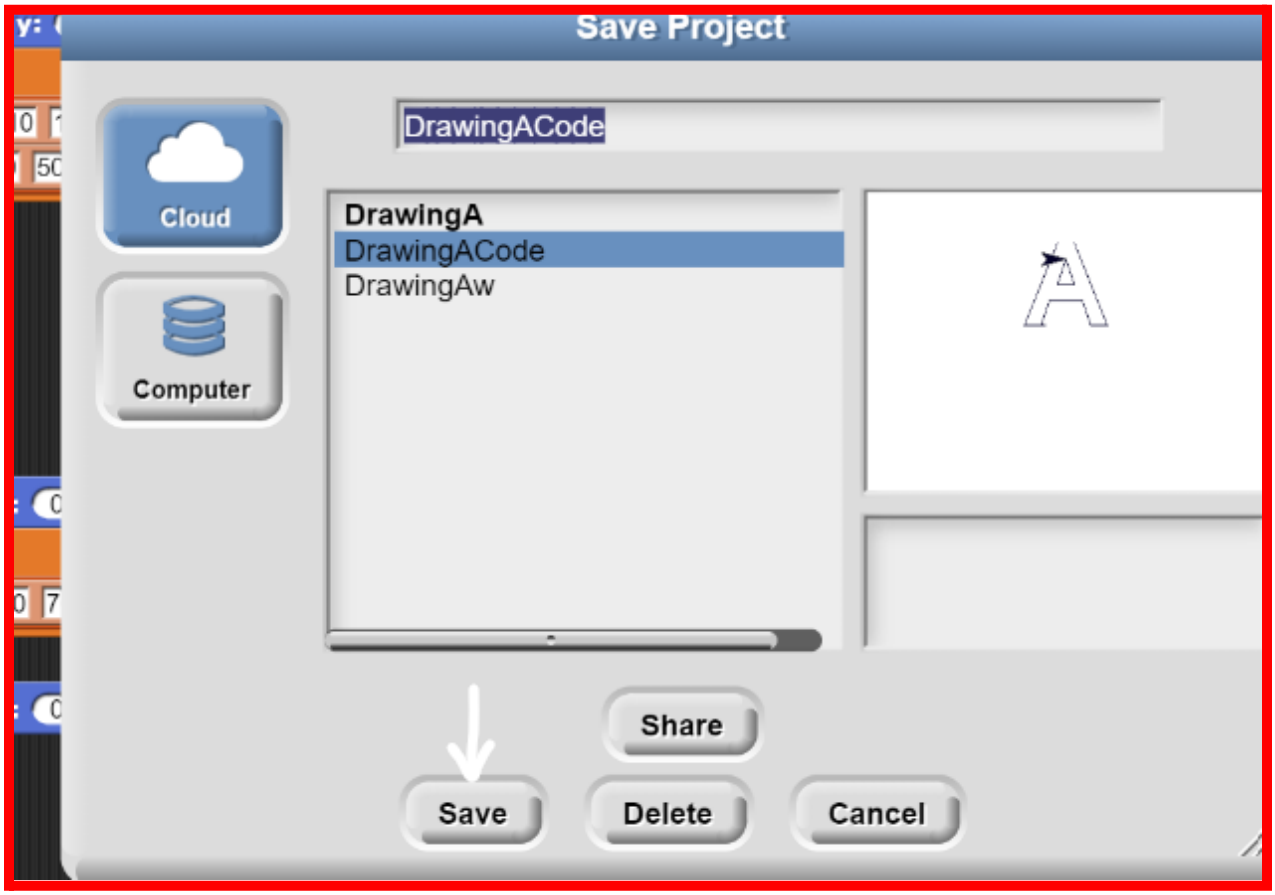
To make an account press on the cloud, press sign up, fill your information in below, agree to the contract and press okay. You will get a link in your email you use in the signup and have to verify through the link.



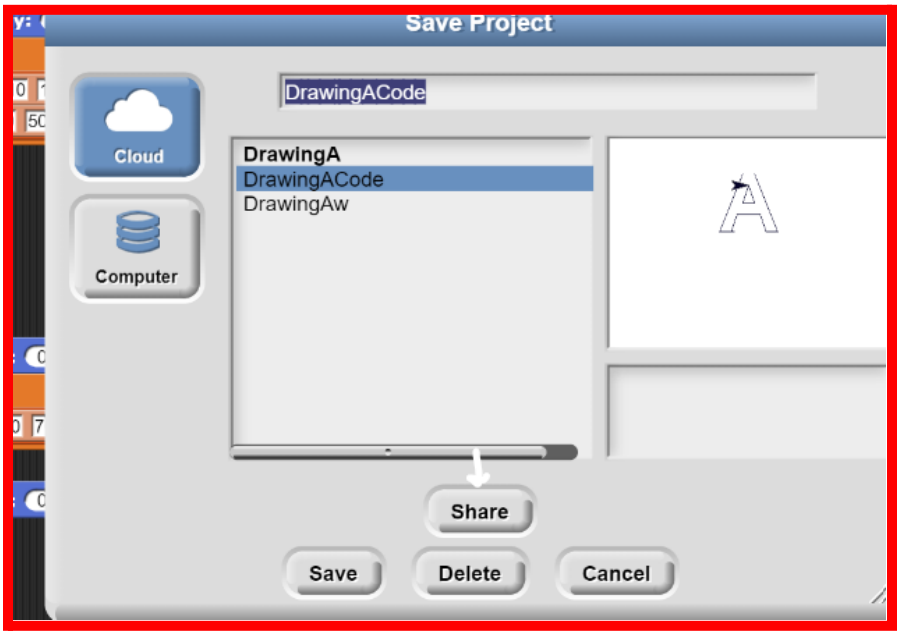
After verifying the account through your email click on the cloud again, and sign in with the username credential you have selected.
Once logged in click on the pages and select save as.



Enter a name in the text box and click on save. It will appear in the list when successfully saved.



After it has been saved then click on the name in the list and press share to make it a public link. When prompted if you want to share select yes.

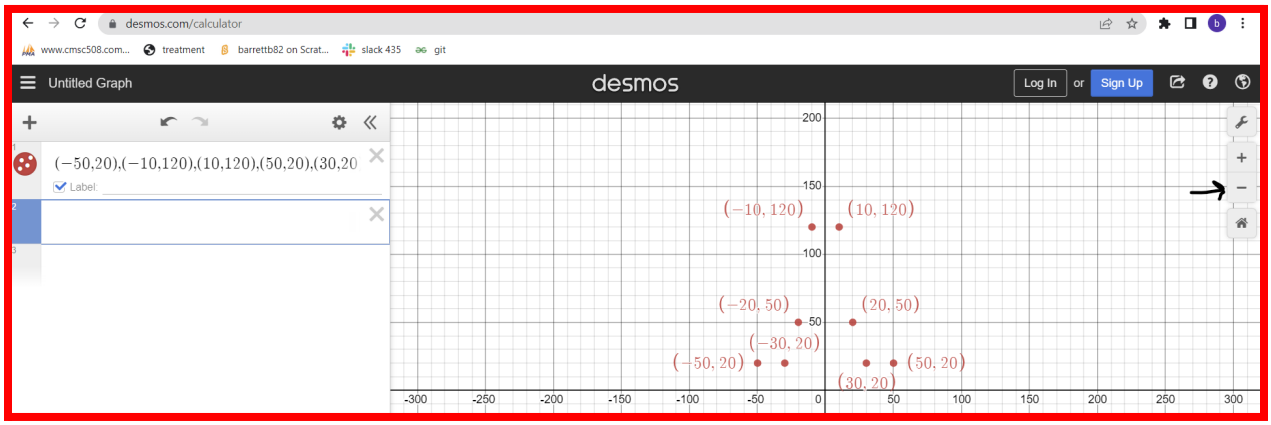


Time to personalize the letter we are drawing and seeing if you can apply concepts in these directions to create your own letter!

Start by visiting this link : https://www.desmos.com/calculator

Once on the link enter the coordinates that were originally put to outline the A. (-50, 20), (-10, 120), (10, 120), (50, 20), (30, 20), (20, 50), (-20, 50), (-30, 20). Also click on the label to see the points.

In order to get the points in view on the graph press the zoom out button the minus 5 times.



Now that you can see how the graphing calculator works, begin to create your own coordinates to create a unique letter.