Introduction To Computer Programming
# Mr. Clausen
LOGO Program L4

Program L4 Animation1   (100 points)

Here is the overview of this program. Use procedures to draw two different background scenes. You can use any of the commands that we have learned to date. These can be nature scenes, city scenes, or any combination of the two. Instead of having the MAIN procedure call procedures that draw both of these scenes, use a procedure named SCENE1 to draw the first background scene and a procedure named SCENE2 to draw the second background scene. We will still have a MAIN procedure, but we will use that to "start" the movie. We will change the shape of the turtle and move the turtle across the first background scene, change to the second background scene, and move the turtle across that scene to create a mini-movie. The details will be described below. To see a short animation without any background, double click on the "My Computer " icon, double click on the network shortcut "IntroCompProgFiles", open the folder "LOGO Resources" and copy the folder "FlyDemo" to your "S:" directory. Make sure that you save all of your procedures, type ER ALL before loading FlyDemo into LOGO. Type ANIMATE1 to see a "bird" fly across the screen. Type ED ALL to examine the 2 procedures that I used.

1) In your "S:" directory, you will need to create a new folder for this project. Name the folder: **LastNameFirstNameL4, and be careful to save all of your work to this folder.**

2) If you have been working on any procedures prior to beginning this program, save them. To make sure that we are starting with a clean workspace, type ER ALL. This erases everything from the workspace.

3) Type CT to clear all of the text from the "Listener Window" to make it easier to create your program.

4) Load program LastNameFirstNameL1.lgo into the workspace.

5) Edit the procedure called COMMENTS, by typing TO COMMENTS. Inside this procedure, **update your comments to include the new program number, name, starting and due dates, and program description**. Remember that comments begin with a **;** (semicolon). Your comments should still include all of the astericks and blank lines.

6) Edit the procedure called DISPLAY_MY_OUTPUT, by typing TO DISPLAY_MY_OUTPUT. The first line of code should be CT to clear the text in the "Listener Window". Inside this procedure, **update your PRINT statements to include the new program number, name, starting and due dates**.

7) In the MAIN procedure, after the call to COMMENTS and DISPLAY_MY_OUTPUT include the following command: **SETWINSIZE "graphics [800 400]** This way, we will all have the same size graphics window.

8) Save the **workspace** for this program in your "S:" directory using the filename: LastNameFirstNameL4.lgo.

9) Now for the fun part. Create a separate procedure for each part of scene one. Also have separate procedures to draw each part of scene two. For instance, if you draw a mountain scene, you will need a procedure to draw the mountain, the sky, trees, etc. If the mountain has alot of detail, you should also have separate procedures for each part of the mountain. **Do not use more than 2 commands on any line in any of your procedures.**

10) As you finish each of these procedures, in the order that you create them, add the "calls" to these procedures from the "SCENE1" procedure by typing TO SCENE1. Edit the SCENE1 procedure to add the names of the procedures necessary to draw the scene. Redefine the SCENE1 procedure. Then type DRAW SCENE1 to see if your picture to correctly programmed. After you finish SCENE1, repeat this process for SCENE2.

11) For some guidelines as what to include in your drawing, use color in your drawing making sure that you are using the color name and not the color number. If you use any custom colors based upon RGB ratios, you must include a comment after the color to tell me what color it is. You must also FILL in at least one closed figure.

12) Your procedures may call other shape procedures that you have created. For instance, if you choose to use a round shape somewhere in your drawing, you may call a CIRCLE or ARC procedure. If you do this, make sure that your CIRCLE procedure is included in your WORKSPACE.

13) **Save your work frequently so that you don't lose any of your hard work. Save different versions of your program using v2, v3, etc. so that each day you have a different version of your file.** This is the safest way to ensure that we don't lose your work.

14) Your program should only include procedures that are used to create your drawing. For instance, you might not use a PENTASTAR to draw the house, so you will lose points from your program if this procedure is included in your workspace. Therefore, do not include any unnecessary procedures, and you must include all procedures used!

15) Remember, that you can type ER followed by the name of a procedure to erase it from your workspace. If you do this, save your program again so that this procedure is not included in your file either.

16) When both of your background scenes are finished, type DRAW SCENE1 and then HT to hide the turtle if you haven't done this already. The picture should fill the Graphics window. Save SCENE1 as a bitmap file with the filename **YourLastNameYourFirstNameSCENE1.bmp.** (Please replace YourLastNameYourFirstName with the name that your parents gave you.) **Repeat this process for SCENE2.**

17) Now it's time to change the turtle's shape. You can have several shapes, but for this program, I would like you to only having one "turtle" moving. (For instance, the flying bird example that I

demonstrated used 5 different turtle shapes, but only one object, the bird, is the "star of the show".)
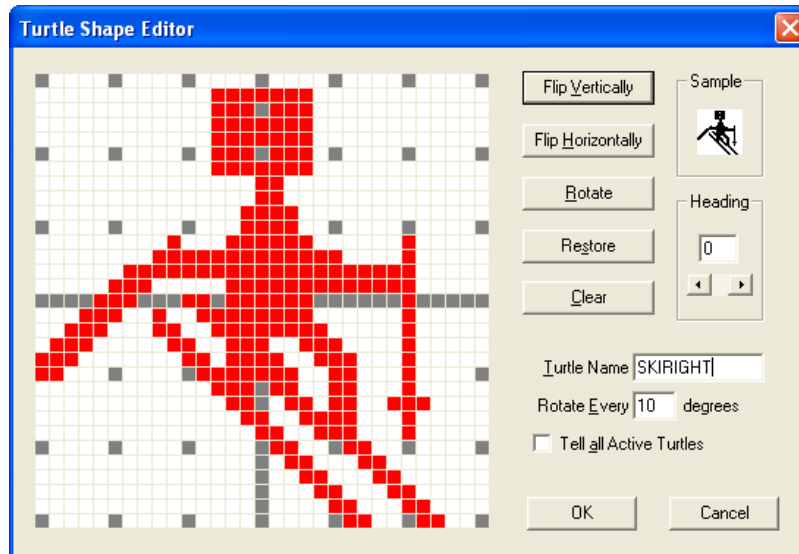
18) Give each turtle shape a short but meaningful name as shown above in the "Turtle Name" Box. For instance, I used SKIRIGHT, SKILEFT, Bird1, Bird2, etc. Define the shape by clicking OK. **Save the shape by typing SAVESHAPE "SKIRIGHT for example, in the Listener Window. As you save each shape, be careful! LOGO will probably save this shape on the local hard drive instead of your network folder. It will actually save the shape in the current active directory, so save your ".lgo" file into your "S:" directory first and this will become the active directory. Make sure that you manually copy all of these turtle shapes if they don't make it into your network folder (they are bitmap files - .bmp) to your "S:" directory.**

19) Create a procedure named ANIMATE1 that loads the background scene1 using the command **LOADPIC "SCENE1.BMP** and then "calls" the turtle shapes that you wish to use (using the **LOADSHAPE** commands) and moves the "turtle" around the first background scene for the first part of your mini-movie. Create another procedure named ANIMATE2 that does the same thing for the second background scene. You will need to use the command LOADSHAPE "SKIRIGHT (for example) to load the shapes into your workspace. Then use the command SETSHAPE "SKIRIGHT to set the shape that you wish to use in these procedures.

20) Here is the information that you will need for your MAIN procedure. The MAIN procedure should call COMMENTS, DISPLAY_MY_OUTPUT, ANIMATE1 and ANIMATE2.

21) When I grade your program, I will type ER ALL to clear my workspace, then I will load your file into my workspace and type DRAW MAIN. I should be able to see your animation exactly as you intended it to look. This would be a good way for you to test your program as you are

writing it to make sure that you are writing your program correctly.

22) If you use variables in any of your procedures, be sure to begin the variable name with a colon (**:**), and choose a variable name that describes the purpose of that variable in your program.

23) **When you are finished, make sure that everything is saved in the folder named LastNameFirstNameL4 and a file named LastNameFirstNameL4.lgo. You will no doubt have several versions of this file in your program folder. Cut and paste all of the non final versions of this file into another folder. However, we still need all of the bitmap pictures for SCENE1, SCENE2 and all of the new turtle shapes that you created.**

When you are finished with your program, have tested it thoroughly to make sure that everything is correct, and are sure that you don't need to make any changes, then **copy the folder LastNameFirstNameL4,** into the "W" network mapping, the LOGO Folder, and the Program L4 folder. This means that your program is ready to be graded.