Software Engineering Challenge
Pushkar Betsur (Text in Red are my responses)

Requirements

Describe the challenge or problem, what does the program need to do?
What classes/objects do you think you need?
How much time do you think you will you need to complete the project?

There will be numerous challenges during the building of the cityscape. I figure that the windows wll be a challenge and will take numerous loops to create enough windows. I assume that the animation will also be difficult to do. The program should be able to simulate a city pretty realistically. I think that the graphics class will be well utilized. I also think that I many need to make lots of Variables or use arrays to create some of the needed objects in the project. I also believe that a class for each element of the project will be needed. I think the time given in class will be enough, I may take a couple hours outside of class to put some final touches on the project or add some additional elements.

Research
What knowledge or skills will you need to build this program
What examples are online or in other graphical programs (games, apps etc. . .)
If so, what can you learn from them?
Do you foresee any problems or constraints, describe
Have you created a similar programs or applets? Are there similar programs in the book or other resources?
If so, what elements of that project can you bring to this project?
Do you have the resources you need to create the program?
Do you need to learn any new knowledge or skill(s) to create the program?

I will need a pretty good hand on encapsulation as we use many classes in this program. I also believe that knowing about the coordinates in a Jframe will be really useful for me to start this program. In addition I think that knowing about the primary colors in Java and how to use RGB values in Java will be helpful to the completion of this project.We have done many graphical labs before, I believe that the Fractal Lab and the Turtle Graphics labs are good examples that I can use and learn from. Those are similar programs that we have created. There are also examples in the end of every chapter and in the applet portion of it. I have the resources needed to create the program. I might need to refresh some basic colors and how to use some of the draw methods.

Design
Draw/create a basic graphic of the applet you plan to build - attach the drawing (paint, word, photo shop) not every objet (draw one example although there may be several in the final program) needs to be in the basic graphic

Include a task list--what will you need to do and in what order
Estimate the amount of time you will need to complete the project

I have to create the buildings, and windows, and make sure they are on the grass which is covered by the road. I also want to animate the sun into a moon eventually and have the background flash to indicate different times of the day and the window light should change accordingly. I also want to add some fun elements like cars or other fun stuff.

Construction – included in summary doc

Document your construction progress with date and progress made (build a chart/table in word or excel), also, include at least three screen shots of your applet (beginning, middle, and end)

Testing/Results/Delivery—summary doc not required to start project

SEE BELOW

Preliminary testing

Does your program meet the needs of the initial challenge or problem? How do you know?
Are any changes or modifications needed, why or why not? Document any changes.

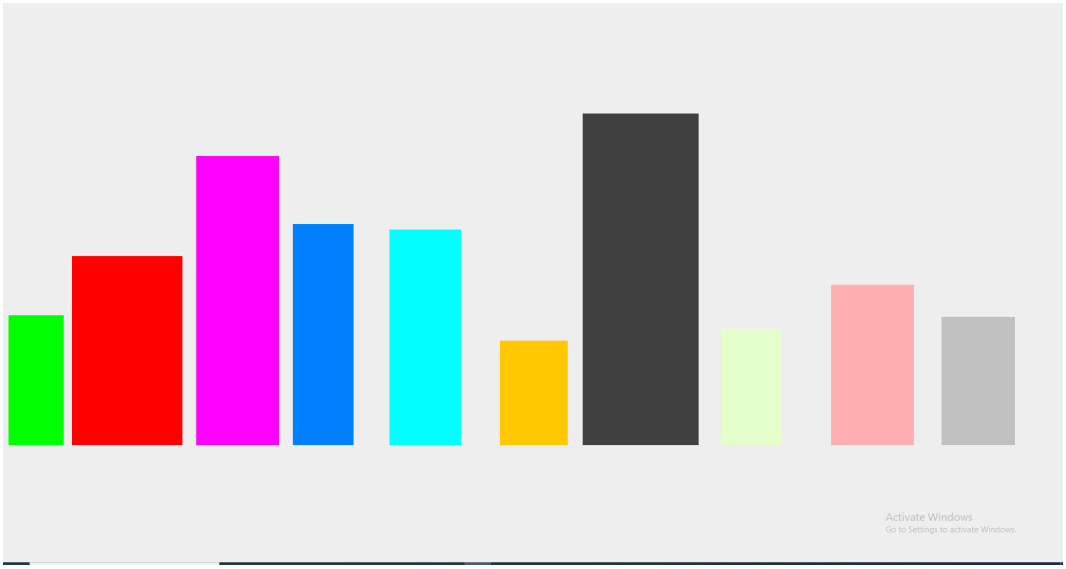
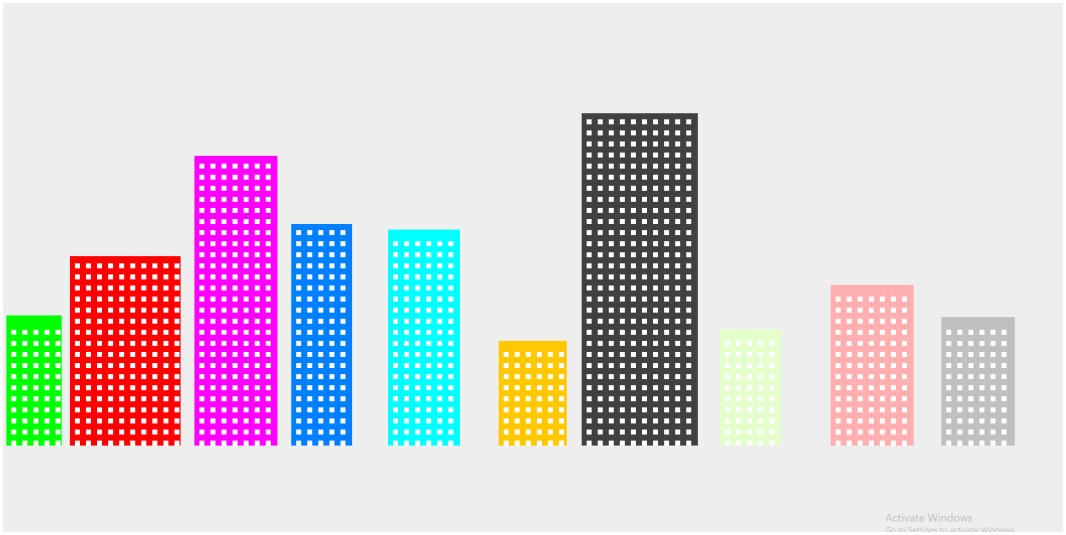
Summarize the project - what worked, what didn't work, note your successes and/or failures.
Looking back, would you have done anything differently, why or why not

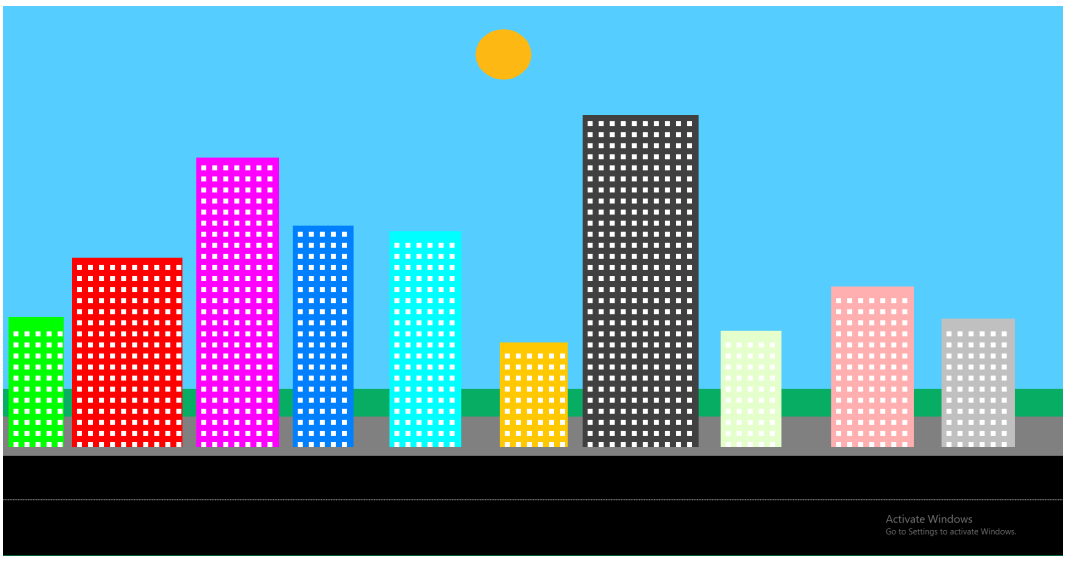
Yes it does, it is a pretty accurate representation of a skyline. I can tell because it looks a lot like some buildings that I've driven by in the city. I think it surpasses many of the challenges because it has a lot of animations. I have more than one animation. I go above and beyond and have extra elements. I made some changes such as the window size and many other factors. I also modified the x and y coordinates many times to ensure that it was good and in the correct spots for the program. Almost everything worked but a lot of the positioning was a difficult task and took a good amount of thinking and brain power. I don't think I would do much differently maybe add some more elements and see how they would gel however I am satisfied with how it turned out.

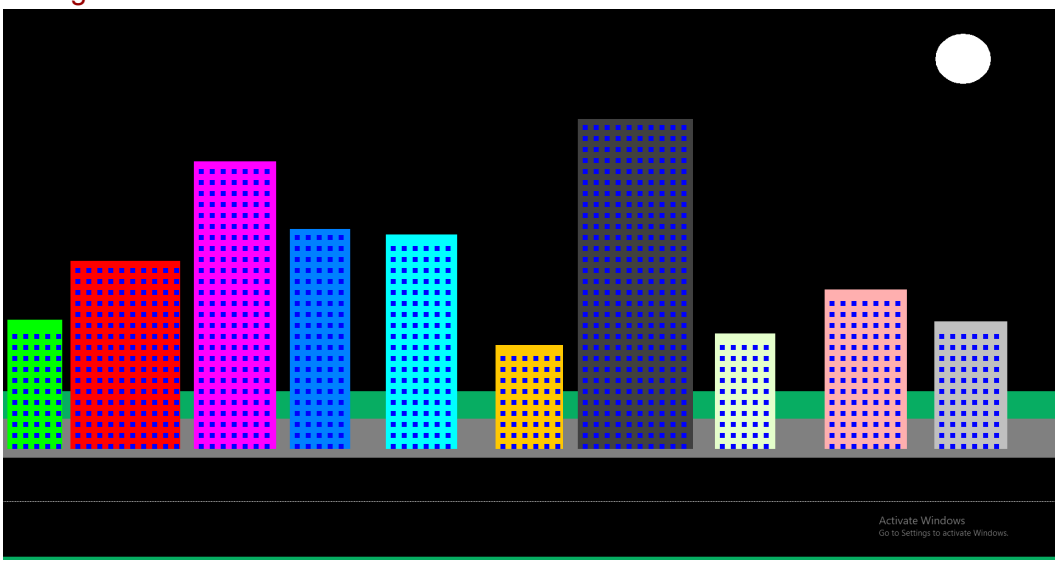
Software Summary Document

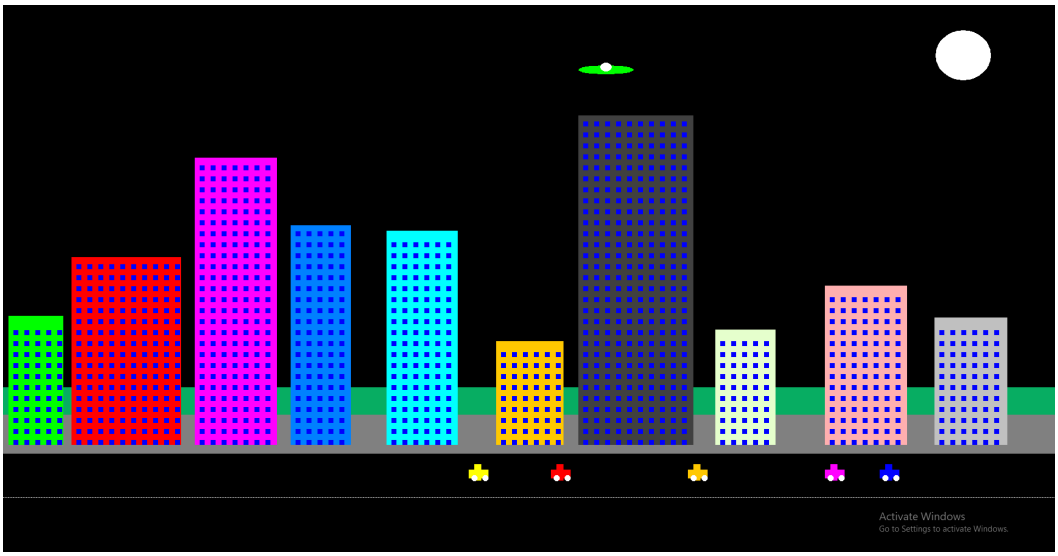
Daily Progress Report

Date	Description
May 19th 2021	**Completed the Software Engineering doc in full depth besides the end part. Excited to do the project and explore the creativity in Java**
May 21th 2021	**Didn't have much time today due to learning in class, however I did attempt to create some rectangle objects.**
May 25th 2021	**Created my base buildings in this class. This took a lot of work since I had to figure out how to level all the buildings on one floor. I also had to make sure that the spacing of the buildings looked good and were still in the frame.**

	
May 27th 2021	**Created my sky and floor which made it possible to level it the buildings on the floor and make sure to have everything even. Getting ready to start making basic animations. I also created the windows today, this was really difficult because I had to change my buildings and their dimensions.** 
June 1st 2021	**I created a the sun and worked on animating it across the screen. In addition to this I worked on changing the sun to a move and making sure its on the West side of my screen like a moon would be in real life. I made sure to animate it across the east from the west too.**

June 3rd 2021	Today, I animated the sky to change with the timings of the day, it should be a sky blue and in typical Illinois weather it will transition to gray and the sun will dim, then dusk will follow and night. I also added colors to the windows and made them turn on during dusk and then eventually resembled them off at night the night time. 
June 7th, 2021	Today was the last day of working on it. I added some final touches. I animated some cars to go on the road and I also animated a UFO to emerge from the ground during the night to spook drivers but to not disturb anyone sleeping.


Activate Windows
Go to Settings to activate Windows.