

UXD-PC REPORT

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5.11.2020 – 13.11.2020

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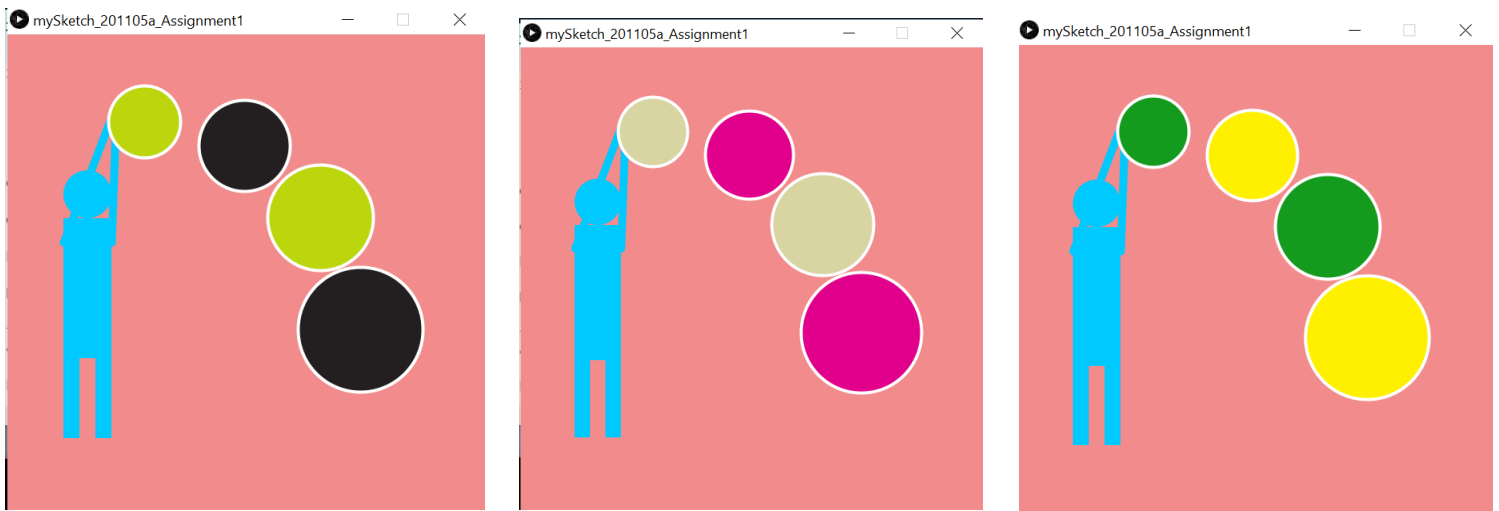
Summary of the Listen segment Day 1:

In today's lesson, I learnt about the basics of programming.org. During the lesson, I downloaded processing.org on my PC and followed the examples to get some practice. The main things I learnt from this lesson was about shapes, colours and variables. It was also important to learn about the layout and setup of processing.org and how the functions work. The processing developing environment includes a text editor, message area, console, toolbar and menu. I learnt the axis grid at the top left corner is 0,0 and that parenthesis are used for all functions. The different shapes I learnt how to make were ellipses and rectangles. Different colours can also be assigned to the shapes. I also learnt different data types such as integers, floats and booleans. These are used to declare variables which can be used as parameters, and the variable names must use camelCase. The order of operations in arithmetic a useful shortcut and follows the PEDMAS rule.

Summary of the Create 1st Assignment Day 1:

The idea behind the concept which I made shows a person throwing a ball and each time the sketch is run, the ball changes colour. I wanted to create an effect of the ball getting bigger as the person appears to throw the ball towards the edge of the display window. There is a pattern where every second ball is the same colour, so it looks as if the ball is moving faster. When the sketch is run for the second time, the pattern remains the same but with different colours for the ball because I wanted that effect to be the main idea of this concept. I did some research for how I can achieve this, so I used colour picking tools and online forums to try and see which code will work for the outcome which I intended. For my first-time coding using processing, I found this to be an exciting challenge to overcome on my own without any help.

Screenshots of Assignment 1:



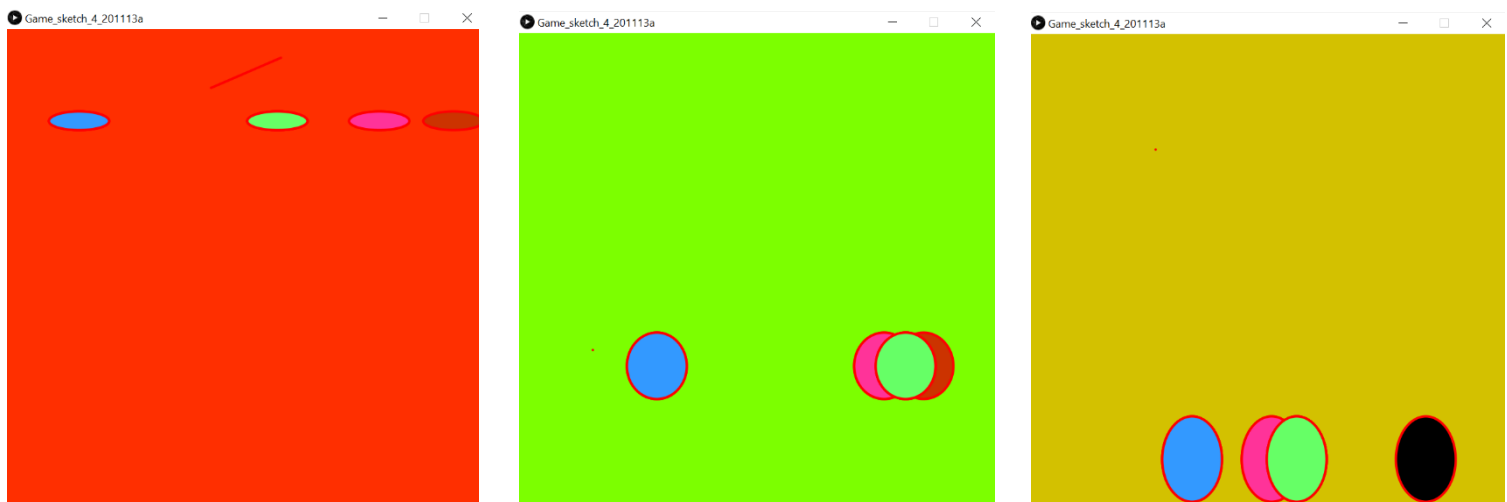
Summary of the Listen segment Day 2:

In today's listen segment, I learnt about flow, conditionals and interactivity. The order in which the code is written is very important. Each line being run is called the flow of the program and it the sequence of which the code appears is from top to bottom. I learnt that the draw function is used to run continuous game loops so that I can create animations or even make the sketch interactive. Curly brackets contain a statement block and those statement blocks belong together after the draw function. Variables are used to define data. If the code will run once, then the setup function is used instead. Using framerate in the void setup means that the code will be drawn in however many frames per second I will input. Conditionals let actions take place only when a specific condition is met so the program will behave differently depending on the values of the variables. Types of conditionals I can use in my code are: 'if' and 'else'. 'Else' if is a condition that is used when there are many choices and only one can be selected at a time. Logical operators include: 'and', 'or' and 'not'. I can make my drawing more interactive by using variables 'mouseX' and 'mouseY' so that the cursor is involved with the drawing. Interactivity can also be included by using the keyboard such as using the 'keyPressed()' function.

Summary of the Create 2nd Assignment Day 2:

I feel as if I received a lot of information from the listen segment, but I still wanted to incorporate pieces of everything that I learnt into the game which I created. The purpose of the game is to click on the red circle falling (using the mousePressed function) before it reaches the bottom of the screen. The background changes colour as you move the mouse for some difficulty for the user to tell which is the right colour they should be pressing. There are four circles in total of different colours. Every single time the circles reach the bottom, they loop back to 0 on the y axis with new x coordinate positions that fall from the screen. Each time the game loops the concept is still the same, only click on the red circle before it reaches the bottom of the screen. I wanted to make this game simple because I am not very experienced with code or fully understand conditionals, but I think my creativity was applied quite well. Whenever there was a bug in my code or I was unsure why I did not get the outcome that I expected, other students and teachers were very nice to give me some assistance.

Screenshots of Assignment 2:



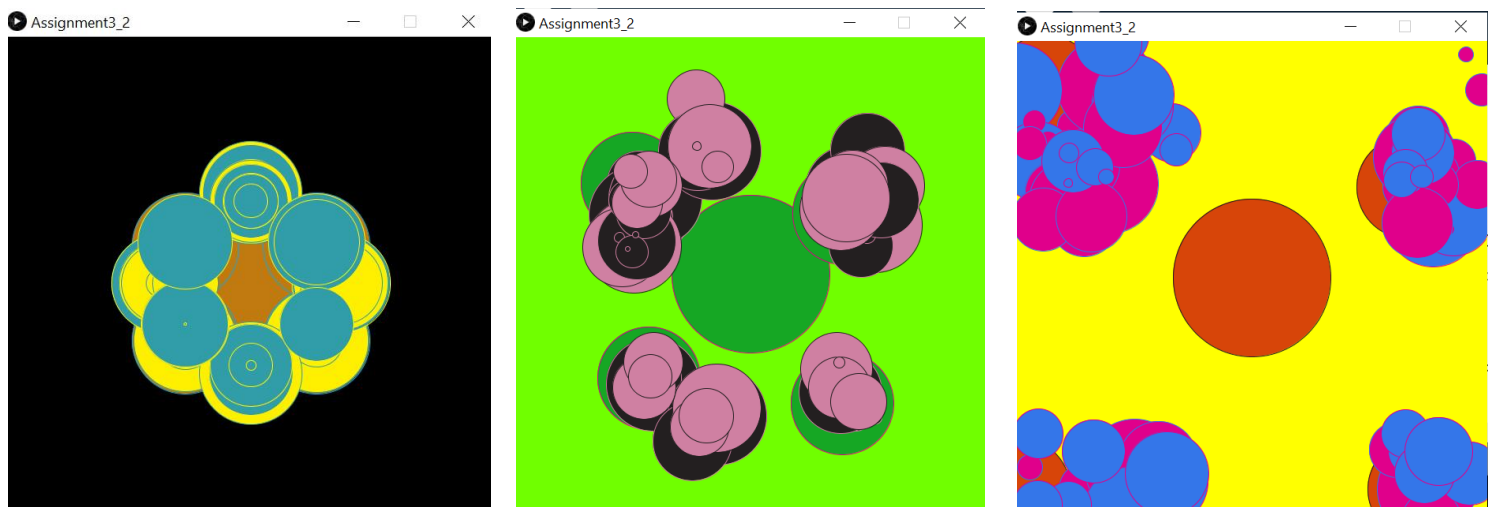
Summary of the Listen segment Day 3:

Today I learnt about functions. It is important that variables have descriptive names, and I use camelCase for this. It is also important to indent code blocks so it is more readable and understandable. Iterative structures shorten repetitive code into more compact expressions. Iterating works in four steps: Initialize, test, action and update. The 'while' loop uses a variable which allows code to be run many times. The test is first evaluated to true or false, if the test is true then the statement is run but if it is false, the code exits the loop. There needs to be code inside the block which makes the expression false so that the program will not become an endless loop. A for loop puts the pieces of code needed to control a loop together within a single structure. A function is a self-contained programming module that has parameters to give them data. They can operate differently depending on how many parameters are used. Functions are like a factory with an input and an output. Before writing a function, I need a clear idea of what the function will do, its parameters and the data type for each.

Summary of the Create 3rd Assignment Day 3:

In this creative assignment I wanted to create something which is like an interactive circular pattern. I wanted to have multiple sized ellipses which form one big ellipse. The smaller ellipses have their own pattern of changing random colours each frame per second. I made this pattern interactive by using the mouse movements. Whenever the mouse is moved diagonally across the screen, all of the small circles extend outwards to look like bubbles. I also added the effect of the screen changing colour in the background because I wanted to make everything about the drawing colourful as the user interacts with the design. I found this assignment to be quite difficult although I made a happy mistake which led me to this result. Although I still needed the assistance of lecturers and students, I feel proud of myself for doing what I could to get this result. I had a different vision at the beginning of the design and how the circles should move but I am still happy with the outcome.

Screenshots of Assignment 3:



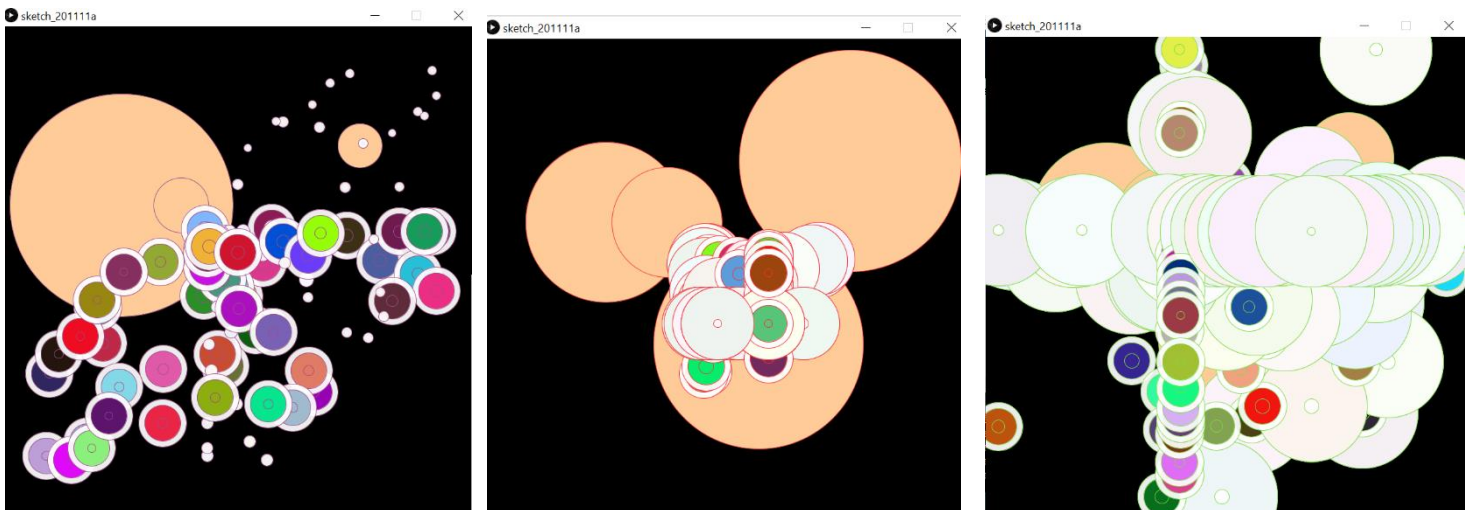
Summary of the Listen segment Day 4:

Arrays can create smelly code to be shorter and they store multiple similar values. Data is securely stored in one array which can be more convenient than storing separate variables. To create an array first it needs to be declared, created then assigned values. Arrays are declared with square brackets and the datatype needs to be specified. Only one data type is used for the whole array. It is created with the keyword 'new'. After it is created, values can be assigned. Declare and create can be combined to make the code shorter. It doesn't specify index numbers, but it puts the values in order. The first element in the array is in the 0 position. This can only be done at the start of the program. After storing the values, the array retrieves it. Arrays are similar to listing items such as grades, names, groceries etc. If I would want to calculate the average, I would add them up and do the action in the array, this means I would then need to loop something for each item in the array. When 'all variableName.length' is used, it will execute the action for all of the values in the array.

Summary of the Create 4th Assignment Day 3:

I wanted to be able to completely do this assignment by myself without the assistance of other teachers or students. I like the idea of using circular patterns of different colours and different sizes like my previous assignment. I made the assignment interactive by having a circular pattern follow the mouse from different directions using conditionals and functions. The pattern following the mouse also changes to random colours every frame per second. As the user moves the mouse at a faster speed, the circles following the mouse increase in size. I also used loops and arrays in the background to increase the sizes of the circles gradually, then they get back to size 0.

Screenshots of Assignment 4:



Reflection of the course (300 – 500 words)

This course has been the most enjoyable experience in all my years of education. I appreciate the lecturer's sense of humour and positive attitude when it came to teaching. It was very motivating to last all those hours of listening each day. As a beginner for coding, the lecturers were very clear and I was fully able to understand the concepts that they taught. The pace of the teaching in the listening segments was not too fast and not too slow so I could comprehend all of the new information at once. I also appreciated the helpdesk sessions for the moments where I found myself really struggling to figure out why my code was not working the way I wanted it to. It was very insightful to have the 3rd year students help me with my assignments because they were very nice and not intimidating to speak to. I felt very comfortable working with them, however in class when I needed help, I found it more difficult to ask the teacher for help because they needed to assist other students at the same time so I would just be stuck on my problem for a long time. When the teacher eventually came around to help me, I liked how instead of telling me the answer, they asked questions related to the new knowledge I learnt, to help me figure out the outcome of what I wanted to achieve. I did not find it difficult to complete the assignments on time. I think it was very practical to work on the assignments right away after having the knowledge fresh in my mind. I would like to apply this system in the future. Starting an assignment right after being told what to do and after receiving a lot of information helped me to produce really good quality work. I find that if I leave it for later and I encounter problems, it can be too late to ask a teacher or students for help. Therefore, the most important lesson I have learnt is to be organised. I can apply this to almost any category in life when I am in an overwhelming or new situation.