

## Assignment 3: Candy Crush

May 2018

### 1 General Instructions

1. The assignment is to be done in groups of 2 people. You may also choose to work solo.
2. We will be using GitHub for version control. Make sure to regularly commit your changes to your repository, rather than making a single commit at the end of the assignment. The commit history of the repository will be checked to verify the same.
3. The deadline for Assignment 2 is 11:59 p.m. on May 20th, 2018. The latest commit in your GitHub repository, as of 11:59 p.m. on the 20th of May will be considered as your final submission.
4. Academic dishonesty is unacceptable and will not be tolerated in this course. To compare the code committed by the teams, an automatic system called MOSS will be used for determining the similarity of the programs.

### 2 Assignment Description

The aim of this assignment is to develop an Android game that is similar to "Candy Crush". It requires you to incorporate the following features as part of your implementation of "Candy Crush".:

1. At the beginning of the game, rows and columns of candy / sweets must appear on the user's screen

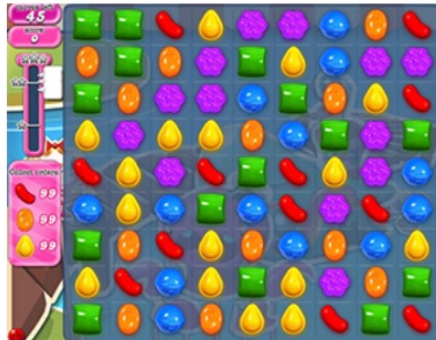


Figure 1: Sample game board at the beginning of the game

2. User must be allowed to mix and match the sweets on the screen. It is possible to only switch the positions of two adjacent pieces of candy in each move
3. Two adjacent pieces can be switched if and only if they result in some valid combination of three or more candies.
4. Any combination of three or more sweets will bring points to the user.
5. After a set of at least three pieces is completed, the candy disappears and the rows or column above shift down. This introduces more candy, thus providing additional moves.



Figure 2 Some example moves to align 3 or more sweets.

6. It can be observed that matching three or more candies of the same color is the only way of earning points. Each matching set is worth points, the value of which varies based on the row or column length.
7. The game can be terminated when there are no more possible moves on the board or when the user reaches a certain target score.

Given the above details, develop an Android Application that mimics the game of Candy Crush.

### 3 Get your Android development environment working

This page gives a step-by-step procedure for installing an Android environment on either Windows, MacOS or Linux. You can also find the process on the Android Developers site. Take care to choose the correct operating system for installation from the drop down menu provided on the page. This course also provides detailed instructions for installation of Android studio on Windows and MacOS. These procedures get you set up with:

- The Java Development Kit (JDK)
- Android Studio, an integrated development environment (IDE)
- The Android software development kit (SDK), which might be bundled together with Android Studio from above link

You should be able to use a Linux, Windows or Mac computer to develop for Android.

### 4 Using GitHub with Android Studio

#### 4.1 Add an Android Studio project to GitHub

1. Download git from <https://git-scm.com/downloads> and install it in your system.
2. Open the project in android studio and go to File -> Settings -> Version Control -> Git. 3. Click on test button to test "path to Git executables If successful message is shown everything is ok, else navigate to git.exe from where you installed git and test again.
4. Go to File -> Settings -> Version Control -> GitHub. Enter your email and password used to create GitHub account and click on OK button.
5. Then go to VCS -> Import into Version Control -> Share Project on GitHub. Enter Repository name, Description and click Share button.
6. In the next window, check all files in order to add files for initial commit and click OK.
7. Now, the project will be uploaded to the GitHub repository and when uploading is finished, a message is obtained in android studio showing that the project was successfully shared on GitHub. Click on the link provided in that message to go to the GitHub repository.

## **5 No-Copy Policy**

The assignment must contain the following statement in the file “statement.txt”: We, your name and your partner, hereby certify that the files we submitted represent our own work, that we did not copy any code from any other person or source, and that we did not share our code with any other students. NOTE: It is acceptable to use code you find in the Android or Java APIs.