Universal College of Engineering, Kaman
Department of Computer Engineering
Subject: Mobile Computing

Experiment No: 1

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Aim: Write an application that draws basic graphical primitives on the screen.

Theory:

Canvas API is also one of the most used in Android. The name of the API itself tells us that the API is being used for drawing on the drawing board. With the help of this API, we can draw different types of shapes and create custom UI components that are not present in Android. In this article, we will take a look at Canvas API and also use this API in our app to make a simple design.The Canvas class is not a new concept, this class is actually wrapping SKCanvas under the hood.

The SKCanvas comes from SKIA, which is a 2D Graphics Library that is used on many different platforms. SKIA is used on platforms such as Google Chrome, Firefox OS, Flutter, Fuschia etc. Once you understand how the Canvas works on Android, the same drawing concepts apply to many other different platforms. A Canvas Coordinate system:

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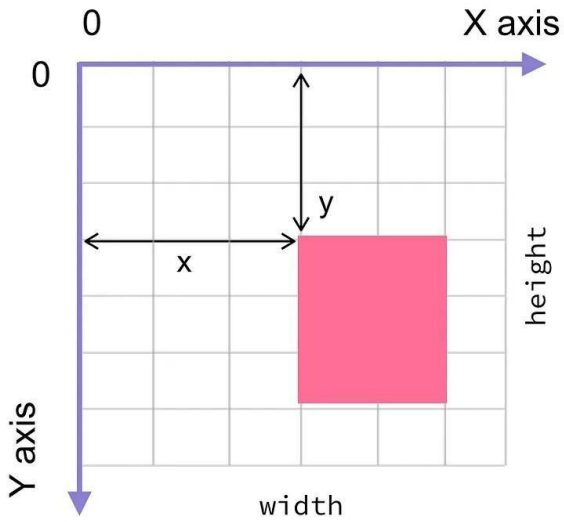

The coordinate system of the Android canvas starts in the top left corner, where [0,0] represents that point. The y axis is positive downwards, and x axis positive towards the right. All elements drawn on a canvas are placed relative to the [0,0] point. When working with the Canvas, you are working with px and not dp, so any methods such as translating, or resizing will be done in pixel sizes. This means you need to translate any dp values into px before calling any canvas operations. This will ensure that your drawing looks consistent across devices with different pixel densities. Canvas draw commands will draw over previously drawn items. The last draw command will be the topmost item drawn onto your canvas.

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GitHub Link :

https://github.com/sachinskill/MC-EXPERIMENTS/tree/main/EXP1%20Drawing

Screenshots of the Output:

Conclusion: Hence, we have successfully implemented and developed an android application for drawing freely on canvas with hands using android studio and also various features are provided.