

BINARY_SYSTEM_CALCULATOR

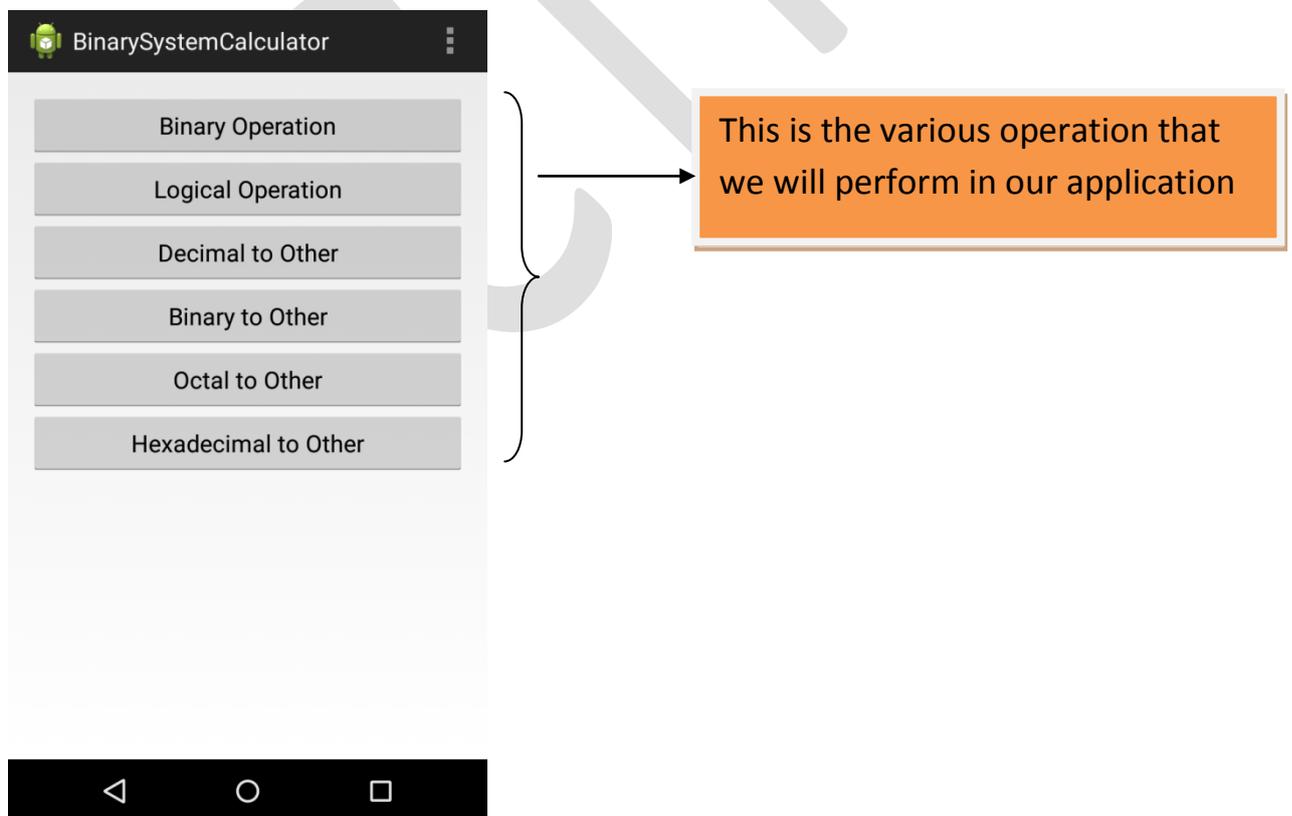
Objective: Nowadays mobile phones has removed the utilization of many electrical gadgets, one among those is calculator. Now our objective is to create an application which could perform all the necessary Binary operation.

>The application would receive the desired operand from the user and display its output

Technical Specification: In our Application we have 8 Activities and corresponding xml layout files.

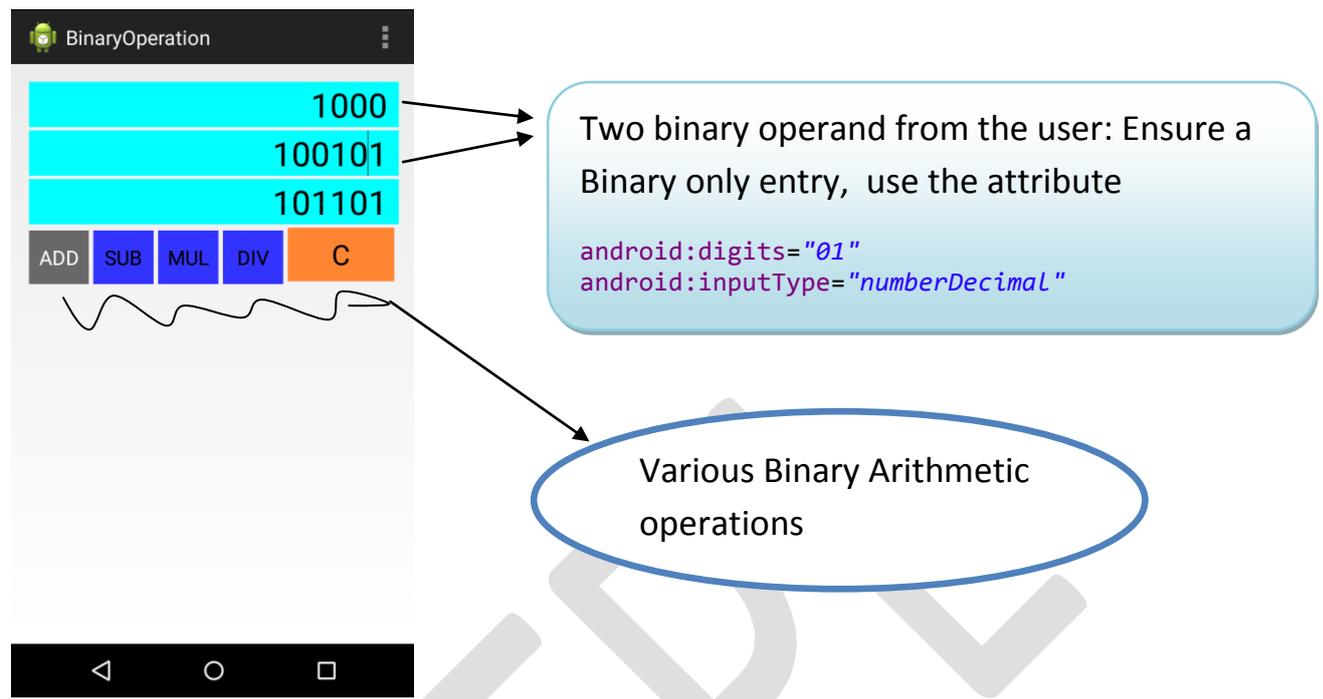
1st Activity: **ListofOperation**

This Activity has the list of All the operation that we intend to provide in our application



So Above view will have 6 Buttons onCick of which we will Jump to Respective Activity

BinaryOperation:



Now we need to parse the String as a Binary number to perform binary operation on it, for that we use the parsing method `Integer.parseInt(String,radix);`

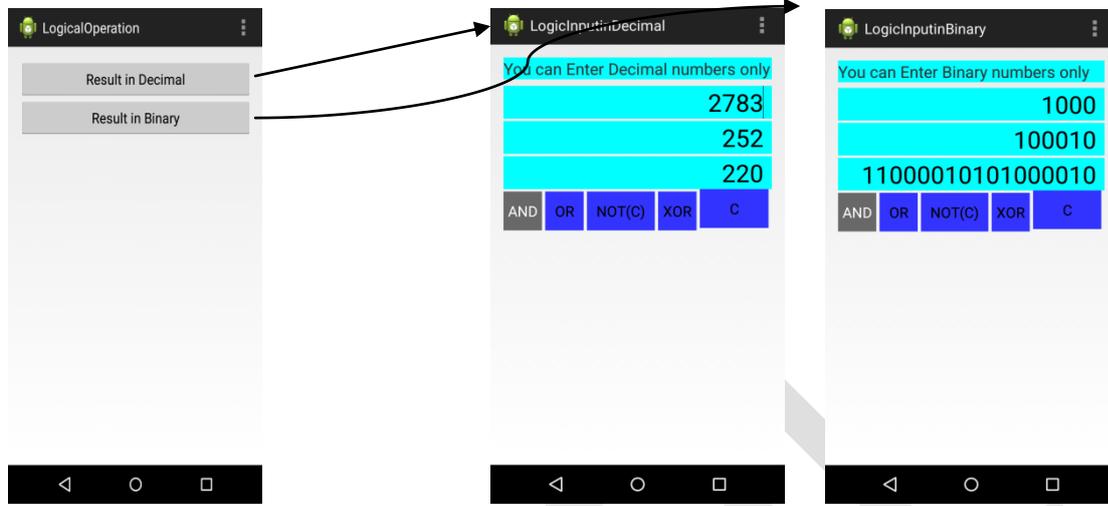
Here String is the user input in string and the radix is the Number System you want the number to be read as (Say for binary radix=2,for octal radix=8,for hexadecimal radix=16)

Now we add, sub, mul or div both the parsed operand using the operator (+,-,*,/) respectively and display the result as binary using

```
setText(String.valueOf(Integer.toBinaryString(result_of_operation)))
```

We have activity LogicalOperation which has two button to jump to LogicalInputinDecimal and LogicalInputinBinary

LogicalOperation:

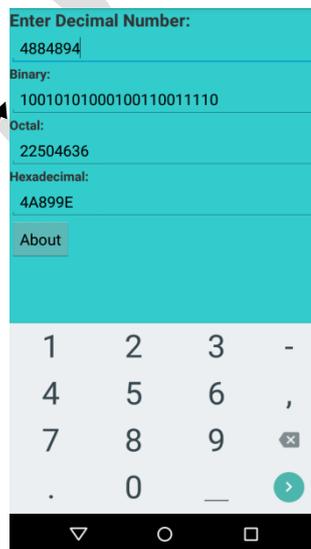


LogicalInputinBinary:

In both cases we perform logical operation on binary number but with two activity we are provided with a option to enter input in decimal or binary in case of binary input again we parse the input using radix 2 and perform the logical operation using operators (&,|,~,^),and display the output in binary using `setText(String.valueOf(Integer.toBinaryString(result)));`

LogicalInputinDecimal:

Difference here is that for decimal input no radix is passed and output is displayed as it is. **DecimalToOther:**



Here the received decimal is converted into Binary, Octal and Hexadecimal dynamically using TextWatcher

DecimalToOther:

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The Textwatcher gives you a method `onTextChanged`(with the text entered by user as a `charSequence`)

Now on `textChanged`

```
txtBinary.setText(String.valueOf(Integer.toBinaryString(received_integer)));
txtOctal.setText(String.valueOf(Integer.toOctalString(received_integer)));
txtHexadecimal.setText(String.valueOf(Integer.toHexString(received_integer)));
```

This will convert the `received integer` to Binary ,Octal and hexadecimal respectively and display that text

Similarly you can do the same for

BinaryToOther

HexadecimalToOther

OctalToOther

The Changes being receive the input as Binary, Octal, and hexadecimal and display the result for (Other Number System)

Accept the input by parsing as

`Integer.parseInt(input,radix)`

radix=2,8,16

