A REPORT ON NUMBER SYSTEM CONVERSION SYSTEM:

Description

* The number system conversion project is developed using C Programming. Few most common bases are decimal, binary, octal, hexadecimal. This system converts a decimal number to the number of another base. Since digital logic operation requires a lot of calculations, this system makes the task easier.

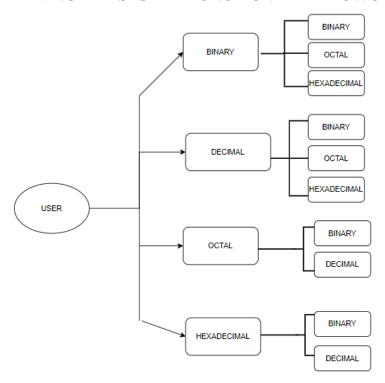
Conversions can be carried out in a single step or in a multistep manner. Below are the conversions of number system offered.

- * Decimal to binary
- * Decimal to Octal
- * Decimal to hexadecimal
- * Binary to octal
- * Binary to hexadecimal
- * Binary to decimal
- * Hexadecimal to decimal
- * Hexadecimal to Binary
- * Octal to Binary
- * Octal to Decimal

Need for this system:

There is a requirement to convert the numbers from one base system to other in the digital domain. To make this task easy and to avoid the tedious mathematical calculations, this system is developed which helps the students as well as digital circuit designers to easily convert the numbers. This can also be used by the students to practice manually and verify their answers to improve their knowledge, reasoning and accuracy.

DEFINING THE SYSTEM FUNCTION BY A FLOWCHART:



For this project, there are 3 files A maincode file, a header file, a function file.

The code is written and is tested in order to get the required output and the quality of the code is checked.

The output is as follows:

```
Enter a decimal number to be econverted to hex: 4
Bodtest_conversion.c:09:test_decimapss
Enter any Octal Number to be converted to binary: 2
Equivalent Binary value = Bibtest_conversion.c:70:test_octal:PMSS
Input an octal number (wing digit 0 - 7):7
The equivalent Decimal Number: 7

test_conversion.c:48:test_octa:FALL: Expected 0 Mas 37
Enter hoxadecimal number to be converted to decimal: Decimal number = 0
test_conversion.c:72:test_hoxadecimal:PMSS

101

The decimal number of given number is 5 test_conversion.c:64:test_binary:PMSS
Input a binary number to be converted to octal:1010
The equivalent Octal Number: 12

test_conversion.c:18:test_binar:FALL: Expected 0 Mas 62

PROMEINS OUTPUT DEBUGIONSOLE TERMINAL
The Binary Number: 1010
The equivalent Octal Number: 12

test_conversion.c:18:test_binar:FALL: Expected 0 Mas 62
Enter the binary number to becadecimal: 0101
Enter quivalent Octal Number: 12

test_conversion.c:18:test_binar:FALL: Expected 0 Mas 62
Enter the binary number to becadecimal: 0101
Equivalent hoxadecimal value: Stest_conversion.c:66:test_bina:PMSS
Enter decimal number to be converted to binary: 6
```

```
The decimal number of given number is 5 test_conversion.c:64:test_binary:PASS
Input a binary number to be converted to octal:1818
The Binary Number: 1810
The equivalent Octal Number: 12
test_conversion.c:18:test_binar:FAIL: Expected 0 Nas 62
Enter the binary number to hexadecimal: 0101
Equivalent hexadecimal value: Stest_conversion.c:66:test_bina:PMSS
```

```
PROBLEMS OUTFUT DEBUG COMSOLE TERMANAL

Enter the binary number to hexadecimal: 0101
Equivalent hexadecimal value: Stest_conversion.c:66:test_bina:PASS

Enter decimal number to be converted to binary:
6

Binary of Given Number is = 110test_conversion.c:67:test_decimal:PASS
Enter Decimal number to be converted to Octal:
3

The Octal number is 3 test_conversion.c:68:test_decima:PASS
```

```
FROBLEMS OUTPUT DIBUGCONSOLE TERMINAL

Enter decimal number to be converted to binary:

Binary of Given Number is = 110test_conversion.c:67:test_decimal:PASS
Enter Decimal number to be converted to Octal:

The Octal number is 3 test_conversion.c:68:test_decima:PASS
Enter a decimal number to be econverted to hex: 5

Enter a decimal number to be econverted to hex: 5

Enter a decimal number to be econverted to hex: 5

Enter a decimal number to be econverted to hex: 5
```

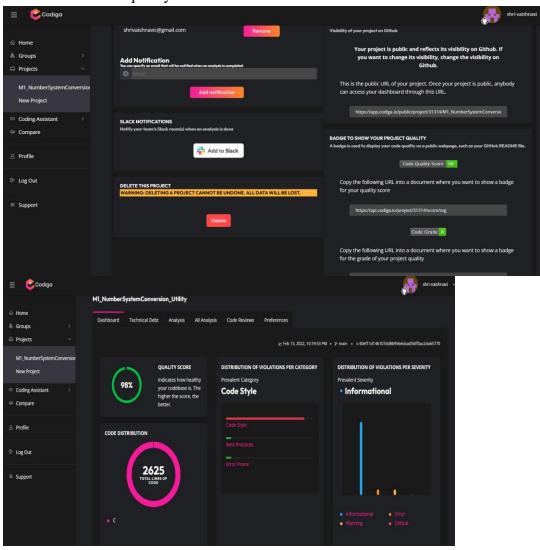
```
PROBLEMS CUTPUT DEBUG COMSOLE TERMINAL

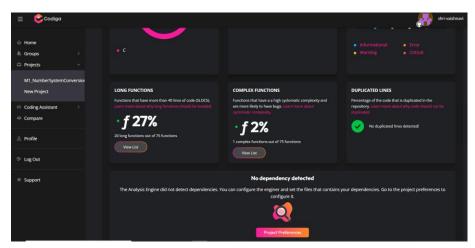
Binary of Given Namber is = 110test conversion.c:67:test_decimal:PASS
Enter Decimal number to be converted to Octal:

3

The Octal number is 3 test_conversion.c:68:test_decima:PASS
Enter a decimal number to be econverted to hex: 5
0cstest_conversion.c:09:test_decimPASS
Enter any Octal Namber to be econverted to hex: 5
finter any Octal Namber to be econverted to binary: 7
Equivalent Binary value = 111test_conversion.c:70:test_octal:PASS
```

The code and code quality was tested.





Conclusion:

The number system conversion system was successful in converting the numbers from one base to the number of other base. Thus, the code was executed and quality was also tested.