EXPERIMENT NO:15

TITLE: Implement Recursive functions for Binary to Decimal Conversion.

PROGRAME:

```
#include <stdio.h>
int dec(int bin)
{
        if (bin==0)
        {
                return 0;
        }
        else
        {
                return (bin % 10 +dec(bin / 10)*2);
        }
}

void main()
{
           int bin;
           printf("Enter a binary number\n");
           scanf("%d", &bin);
           printf("The decimal equivalent of %d is %d\n", bin, dec(bin));
}
```

OUTPUTS:

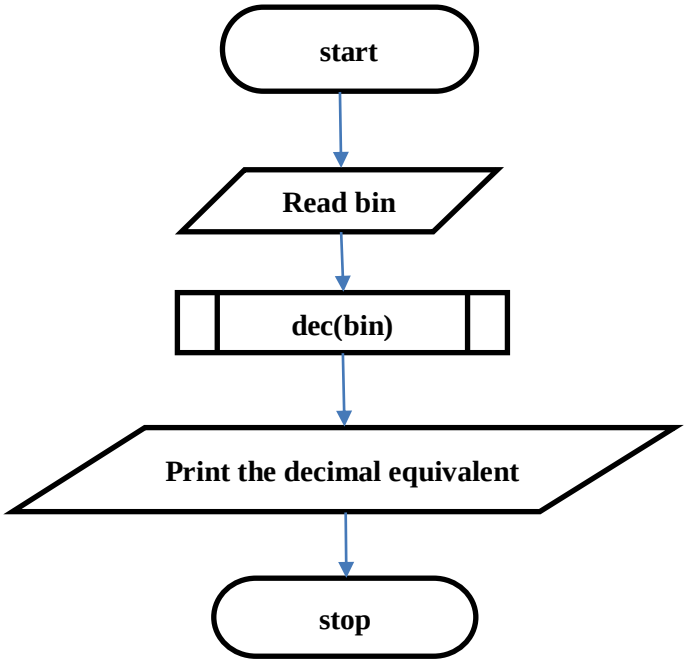
- Enter binary value
  100
  decimal value is 4
- Enter binary value
  1001
  decimal value is 9

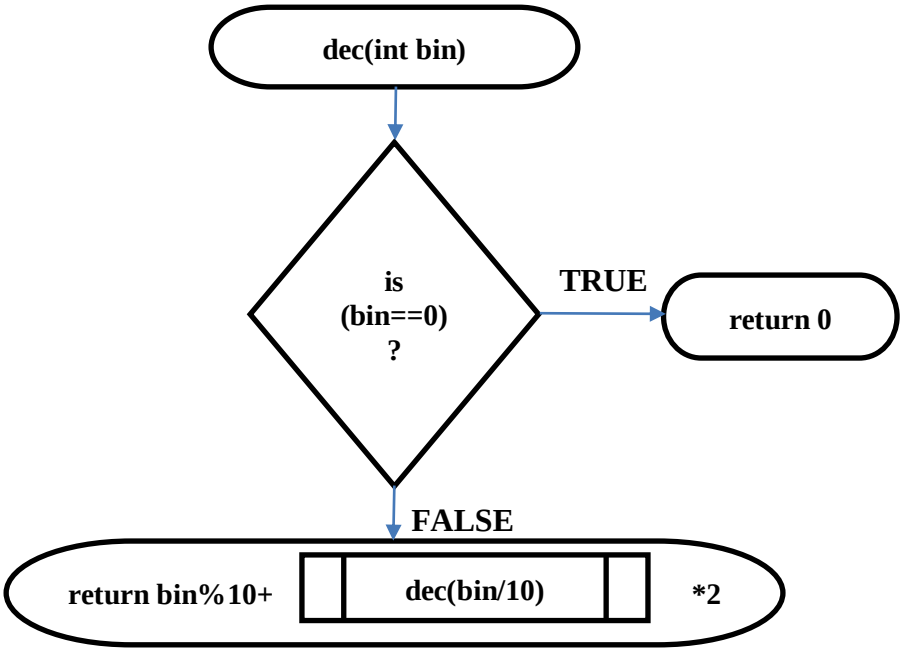
ALGORITHM:

STEP 1: START
STEP 2: READ bin
STEP 3: Call the function dec(bin)
STEP 4: PRINT the decimal equivalent value
STEP 5: STOP

FUNCTION dec(int bin)
STEP 1: if (bin==0)
return 0;
else
return (bin % 10 +dec(bin / 10)*2);

FLOWCHART:


start
Read bin
dec(bin)
Print the decimal equivalent
stop


dec(int bin)
is
(bin==0)
?
TRUE
return 0
FALSE
return bin%10+
dec(bin/10)
*2