



Reversing a String and Conversion from Decimal to Binary

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2. Reversing a string using Stack

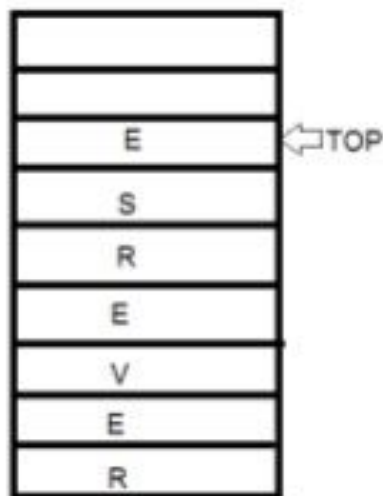
- A simple application of stack is reversing strings. To reverse a string, the characters of the string are pushed onto the stack one by one as the string is read from left to right.
- Once all the characters of string are pushed onto stack, they are popped one by one. Since the character last pushed in comes out first, subsequent pop operation results in the reversal of the string

For example:

To reverse the string 'REVERSE' the string is read from left to right and its characters are pushed . LIKE:

STRING IS:

REVERSE



STACK

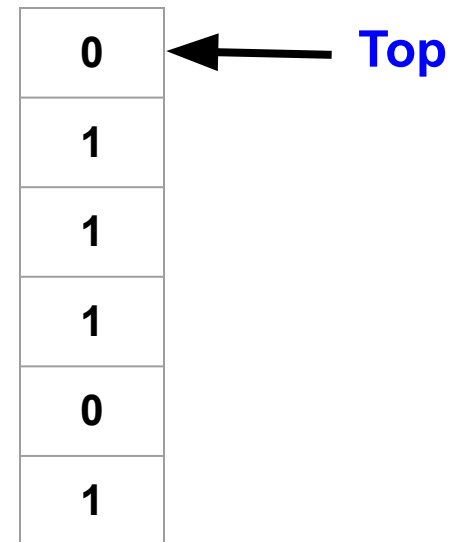
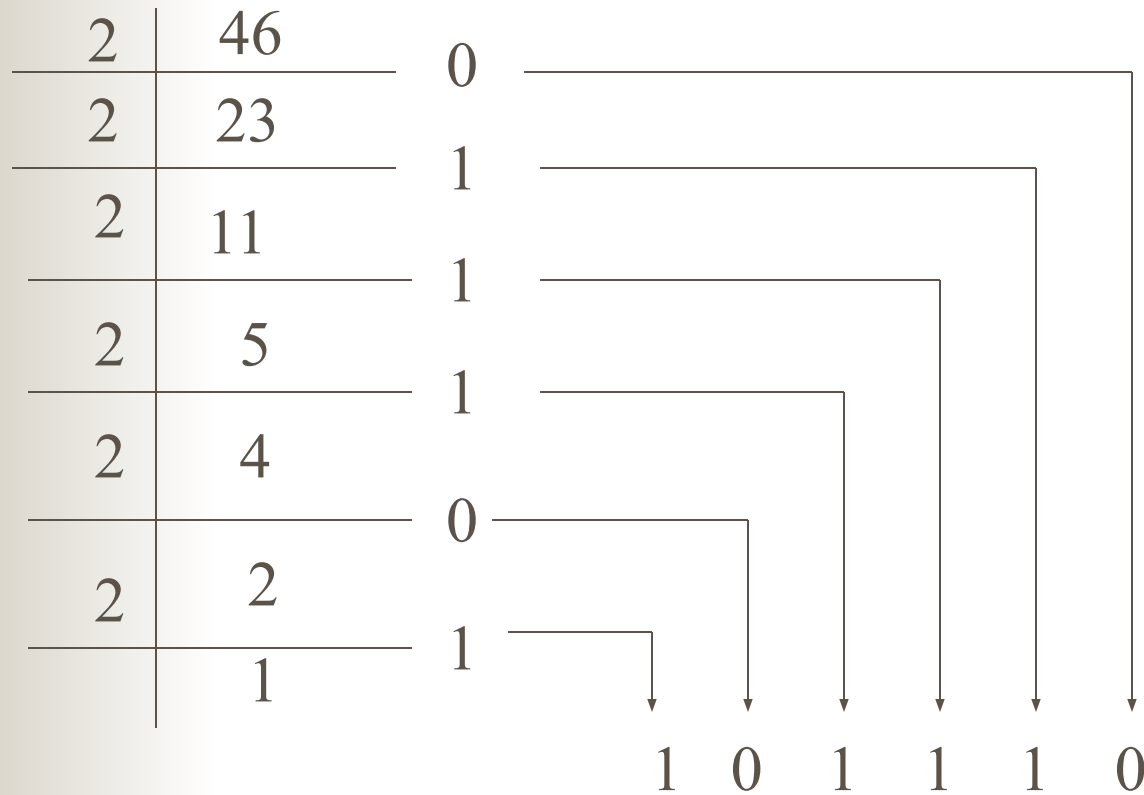


Now Consider the following function.

```
Reverse_string(char str[ ])
```

```
{  
    int i = 0, j;  
    do{  
        j = i;  
        while (str [ i ] != ' ' && str [ i ] != '\0')  
        {  
            push (str [ i ])  
            i ++;  
        }  
        while (! stack_empty() )  
        {  
            str [ j ] = pop();  
            j ++;  
        }  
    }while (str [ j ] = '\0');  
}
```

3. Decimal to Binary Conversion





Now Consider the following program.

```
Void main ( )
{
    int num, a [20], b [20], i, j, k;
    printf (“ enter any decimal number”);
    scanf (“ %d ”, &num);
    i = 0
    while (num > 0 )
    {
        a [i] = num % 2;
        i ++;
        num = num / 2;
    }

    k = i - 1;
    For ( j = 0; j < i ; j ++ )
    {
        b [j] = a[ k ];
        printf (“ %d ”, b [j]);
        k- -;
    }
}
```