

Unit 2

Q2: Good Number

Algorithm:

Step 1: Start the program

Step 2: Take input from user and store in variable n

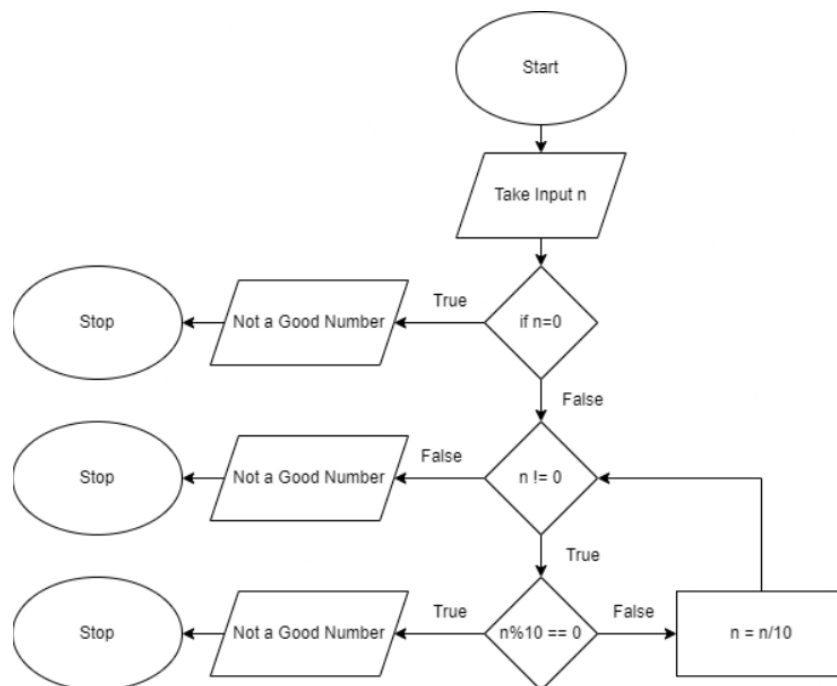
Step 3: Check if n is zero, if not then run a loop to separate its digit by dividing it through 10.

Step 4: If remainder of $n/10$ is 0 then its not a Good number, break that loop.

Step 5: If the loop reaches its termination condition then it's a Good Number.

Step 6: Stop

Flowchart:



Code:

```
#include <stdio.h>
#include <string.h>
int main()
{
    int n;
    printf("Enter the number: ");
    scanf("%d",&n);
    if(n){
        for(;n!=0;n/=10){
            if(!(n%10)){
                printf("Not a GOOD Number");
                break;
            }
        }
        if(!n) printf("GOOD Number");
    }
    else printf("Not a GOOD Number");
    return 0;
}
```

Sample Input and Output:

```
D:\Codes\C & C++>cd "d:\Codes\C & C++\Learn\Practice"
Enter the number: 3468023
Not a GOOD Number
d:\Codes\C & C++\Learn\Practice>cd "d:\Codes\C & C++\Learn\Practice"
Enter the number: 33132
GOOD Number
d:\Codes\C & C++\Learn\Practice>
```

Unit 3

Q1: First and Last Occurrence of character in String

Algorithm:

Step 1: Start the program

Step 2: Scan the word and character and assign it to s and c variables

Step 3: Run a loop to the string end, if in between a character of s matches with c, display its index position and break the loop.

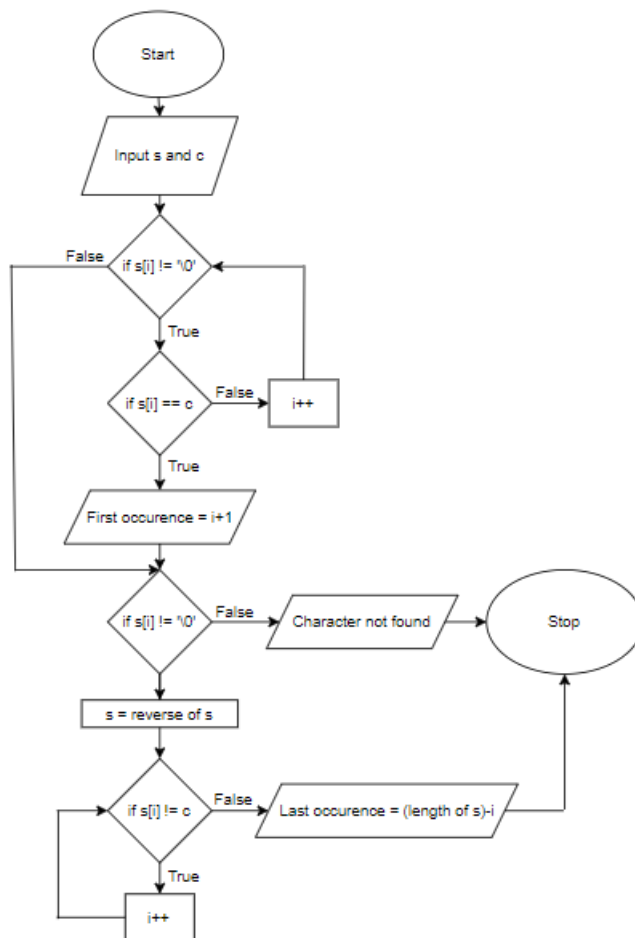
Step 4: Check if the loop ran till the end or not. If it did then character was not present in the word. Display appropriate message and exit the program.

Step 5: If the loop terminated in between then, reverse the string s and again run a loop to find a matching character.

Step 6: The loop terminates if it finds a matching character. Display its index position now subtracting it from length of s.

Step 7: Exit

Flowchart:



Code:

```
#include <stdio.h>
#include <string.h>
int main(){
    int i;
    char s[10000], c;
    printf("Enter the String: ");
    scanf("%s",s);
    printf("Enter the character: ");
    scanf(" %c",&c);
    for(i=0;s[i]!='\0';i++){
        if(s[i]==c){
            printf("First Occurence at position: %d\n",i+1);
            break;
        }
    }
    if(s[i]!='\0'){
        strrev(s);
        for(i=0;s[i]!=c;i++);
        printf("Last Occurence at position: %d ",strlen(s)-i);
    }
    else printf("Character not found");
    return 0;
}
```

Sample Input and Output:

```
D:\Codes\C & C++>cd "d:\Codes\C & C++\Assi
Enter the String: avenger
Enter the character: e
First Occurence at position: 3
Last Occurence at position: 6
d:\Codes\C & C++\Assignments\Unit 3>cd "d:
Enter the String: fish
Enter the character: a
Character not found
d:\Codes\C & C++\Assignments\Unit 3>|
```

