IT161 LAB 7

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Objective : Program to decide if the given integer is a palindrome, using for loop.

Software used : Online GDB Compiler and Debugger for C (IDE)

Methodolgy : The program will first calculate the reverse of the number entered by the user, through for loop and then check for the equality of this reversed number with the original one, using if-else statements. If they are equal, then the number is palindrome, else not.

Algorithm :

Step 1) Start

Step 2) Int a,i,reverse=0,n

Step 3) Take input of n from the user

Step 4) Assign the value of n to a, apply condition n not equal to zero and after each iteration of loop n=n/10 for (a=n; n!=0 ; n =n/10)

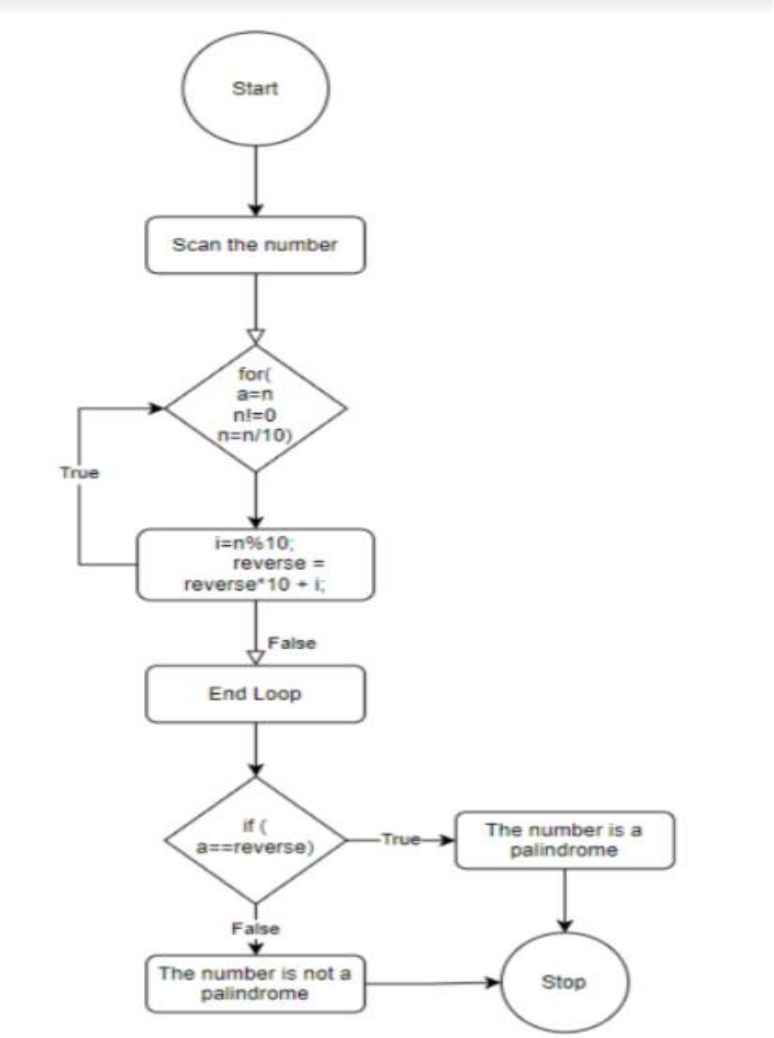
Step 5) For finding the reverse of the number we will use i=n%10 and reverse=reverse*10+i

Step 6) Using an if else statement we will check whether a==reverse or not.

Step 7) If a==reverse then n is a palindrome number, If not then n is not a palindrome number.

Step 8) Stop

Flowchart :

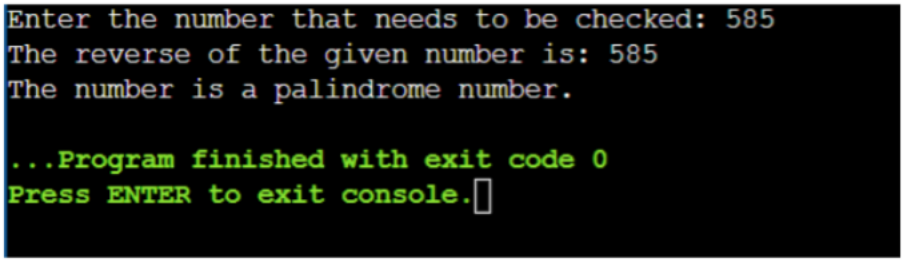


Code :

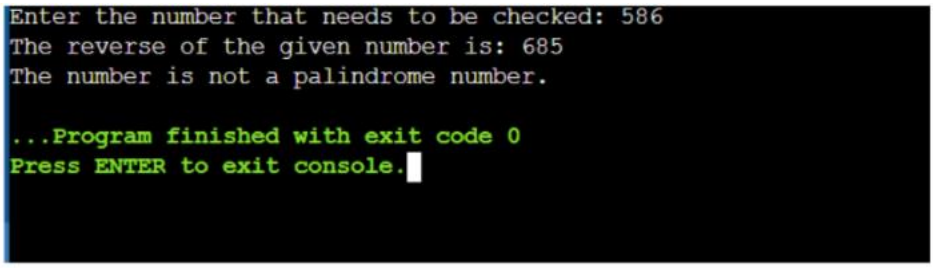
```
/*  This C Program is Prepared by Snehal Keshav Nalawade
    Roll no. : 202151160
    Date of preparation : 22/02/2022

    This program Checks whether the number entered by the user is palindrome or not by using for loop
*/
#include <stdio.h>          // using pre-processor directive to import stdio header files in the program
int main(void)
{
    int n, reverse=0, i;      // declaring varialbles and also initialising some of them
    printf("Enter the number that needs to be checked: ");
    scanf("%d", &n);          // Taking input from the user and storing it in variable n
    int a = n;
    for(; n>0; n/=10)       // calculating the reverse of the entered number by using for loop
    {
       i = n % 10;
       reverse = (reverse*10) + i;
    }
    printf("The reverse of the given number is: %d\n",reverse);
    if(a==reverse)          // checking whether the entered number is palindrome or not
    printf("The number is a palindrome number.");
    else
    printf("The number is not a palindrome number.");
    return 0;
}                       // end of main function
```

Sample Output :

1)



2)



Conclusion : The C Code has been successfully implemented and the desired results are obtained.

Thank you