C program to check whether a number is palindrome or not using functions

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4AL19CS047
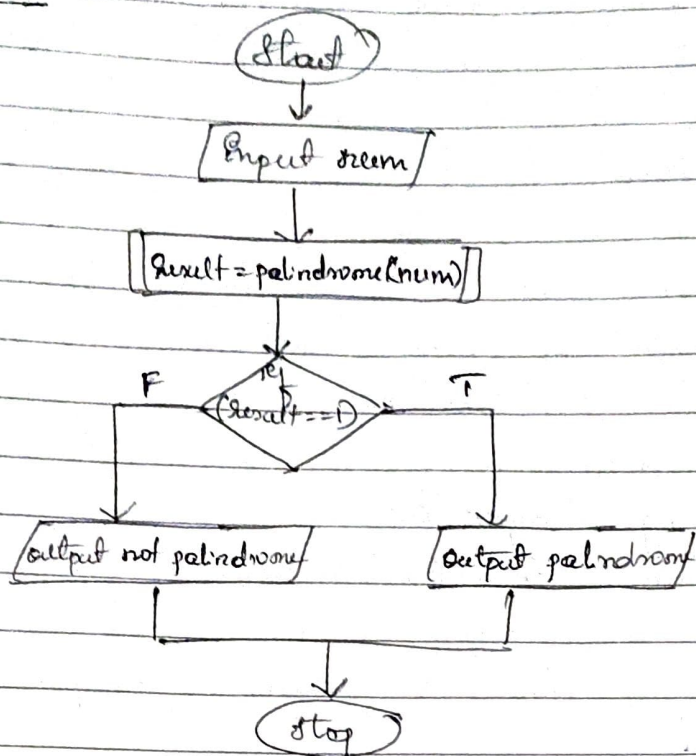
Algorithm

① Start
② Input num
③ result = palindrome (num)
④ if (result == 1)
⑤ output palindrome
⑥ else
⑦ output not palindrome

int palindrome (int num)

① start
② rnum=0, r, n;
③ n=num;
④ while (n>0)
  r = n%10;
  rnum = rnum*10+r;
  n=n/10;
⑤ if (rnum == num)
  return 1;
⑥ else
  return 0;
⑦ stop

(ii)

Flowchart

```
                    ( Start )
                        |
                        v
               [ Input  num ]
                        |
                        v
        [[ Result = palindrome(num) ]]
                        |
                        v
              if
   F     < (Result==0) >     T
   |            |              |
   |            v              |
   v                           v
[ output not palindrome ]  [ output palindrome ]
        |                          |
        +-----------+--------------+
                    |
                    v
                ( Stop )
```

int palindrome (int num)

```
                    ( Start )
                        |
                        v
           [ Input  rnum=0, r, n ]
                        |
                        v
                  [ n = num ]
                        |
                        v
                    < while
                      (n>0) >
                        |
                        v
              +-------------------+
              |   r = n % 10      |
              | rnum = rnum*10+r  |
              |   n = n/10        |
              +-------------------+
                        |
                        v
                      if
   F        < (rnum ==          >     T
   |            num)                   |
   |              |                    |
   v              v                    v
[ Return 0 ]                    [ Return 1 ]
   |                                   |
   +------------------+----------------+
                      |
                      v
                  ( Stop )
```