IT161 LAB 9

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1]
(a)
Aim: Read a year from the user and display whether it is a leap year or not

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

Algorithm :

Step 1: Start

Step 2: Declare integer year and read it from user.

Step 3: if (year > 1752)

if (year is divisible by 4 AND year is divisible by 400 OR year is not divisible by 100)

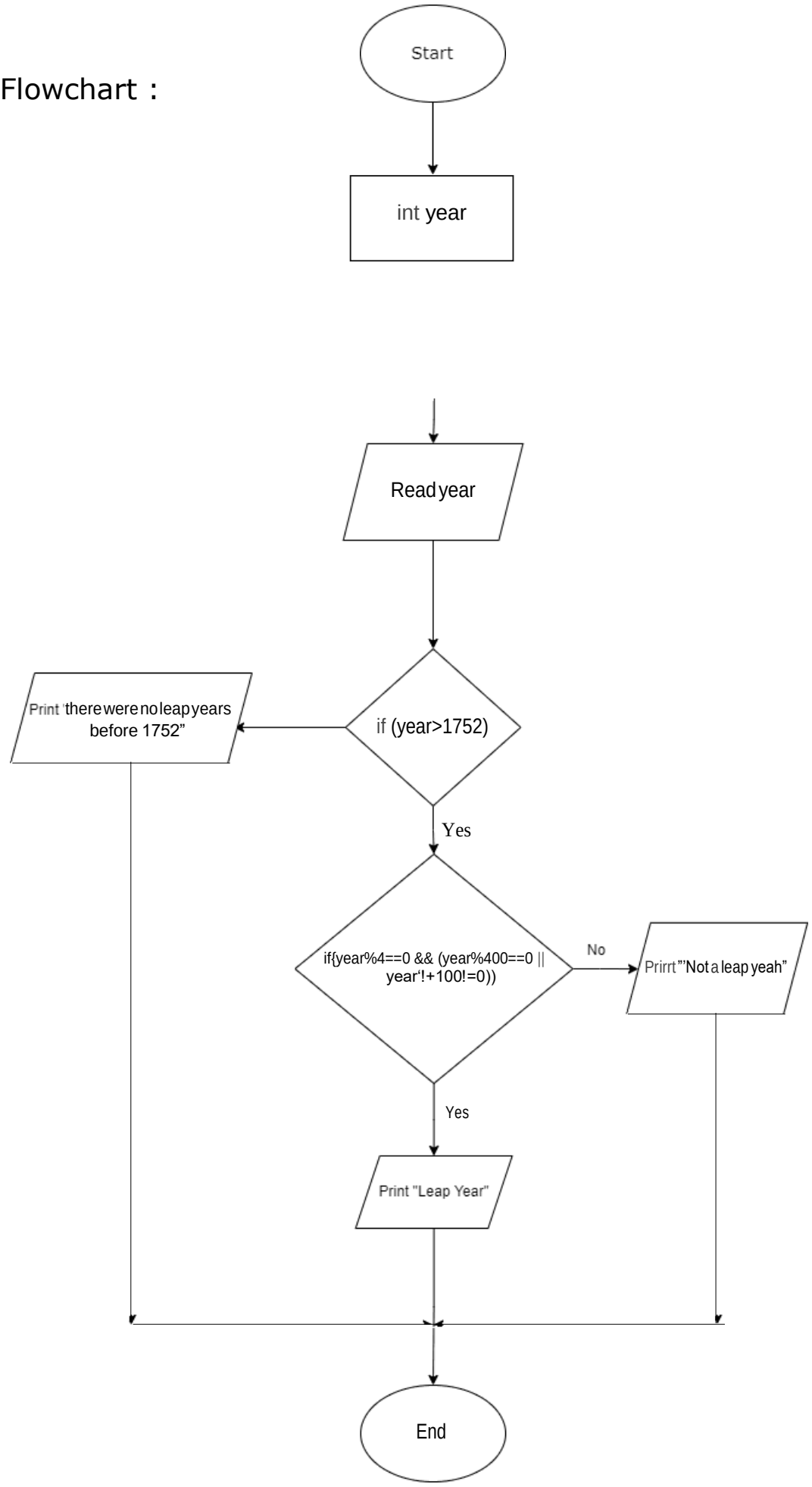
print “Leap year”

else print “Not a leap year”

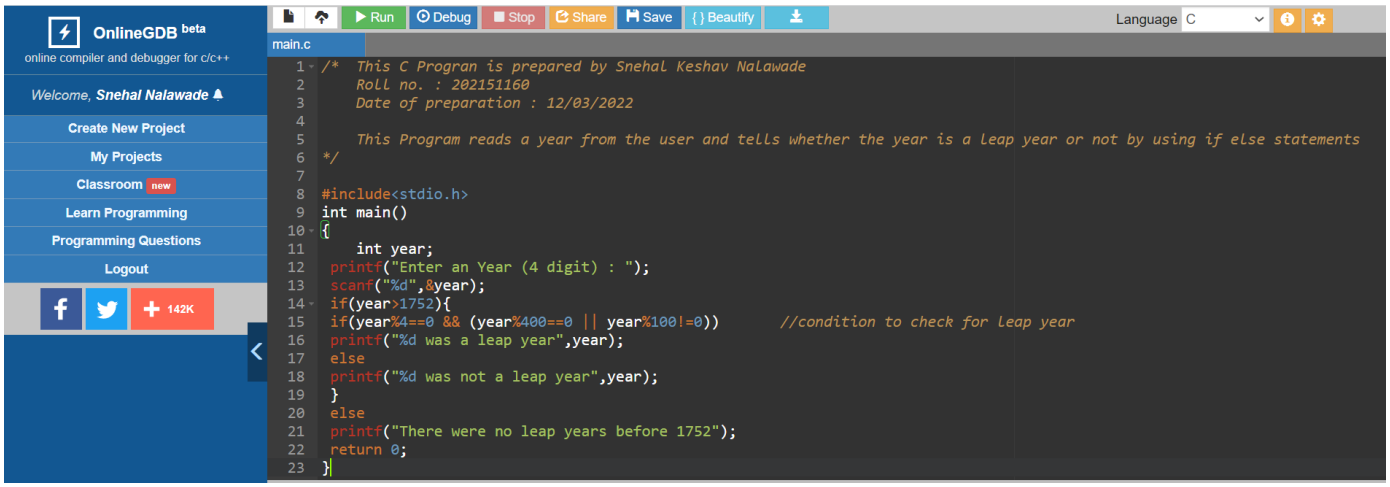
Step 4: else print “There were no leap years before 1752”

Step 5: Stop

Flowchart :

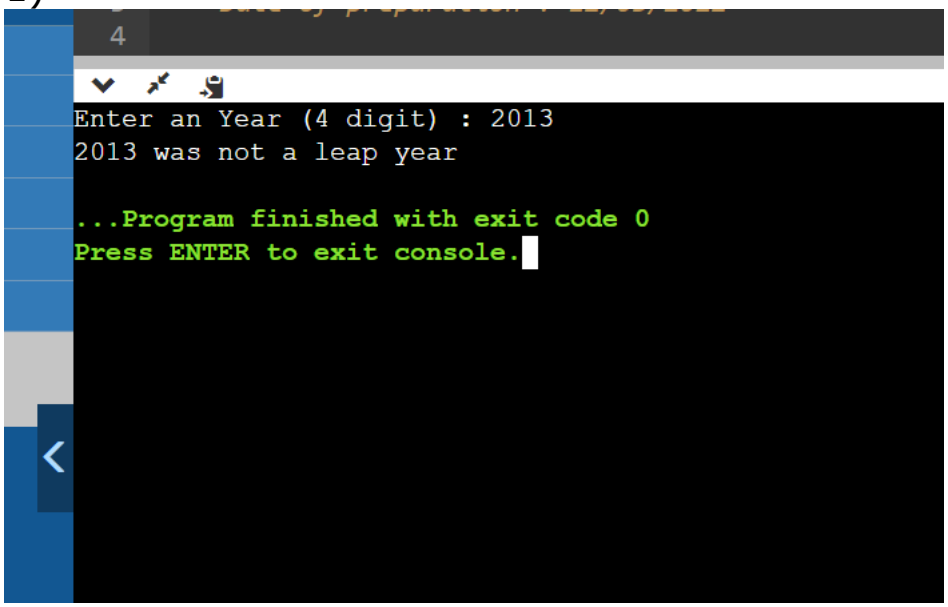

Start
int year
Read year
if (year>1752)
Print "there were no leap years before 1752"
Yes
if{year%4==0 && (year%400==0 || year'!+100!=0))
No
Prirrt "'Not a leap yeah"
Yes
Print "Leap Year"
End

Code :

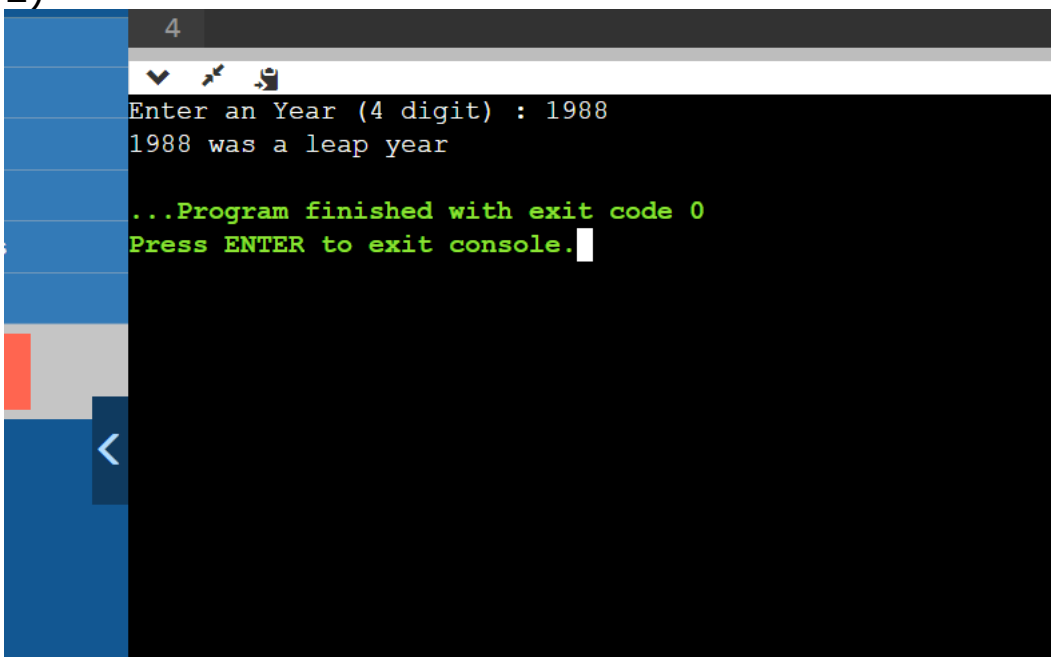


Sample output:

1)



2)



Conclusion : The C code has been executed successfully and the desired results are obtained.

(b)

Aim : Convert the above program, to perform the same task, using a **FUNCTION** named as LEAPORNOLEAP

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

Algorithm :

Step 1: Start

Step 2: Create a function LEAPORNOLEAP with void return type an integer parameter if (year > 1752)

if (year is divisible by 4 AND year is divisible by 400 OR year is not divisible by 100)

print "Leap year"

else print "Not a leap year"

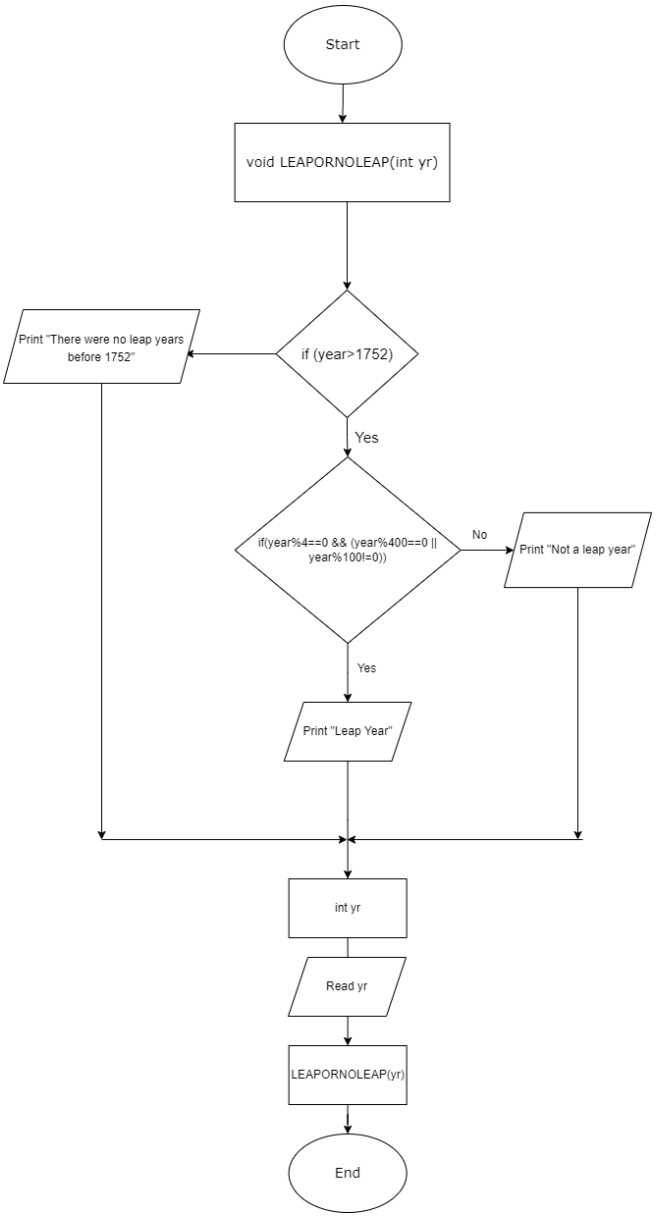
Step 3: else print "There were no leap years before 1752"

Step 4: Declare integer yr in MAIN and read yr from user

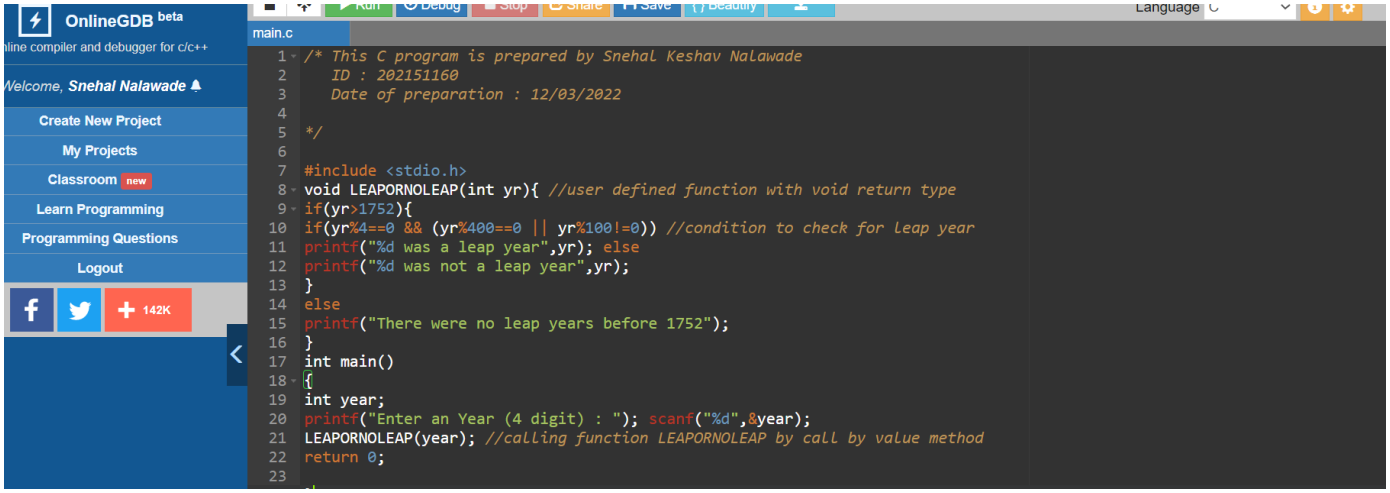
Step 5: Call function LEAPORNOLEAP with argument yr.

Step 6: END

Flowchart :

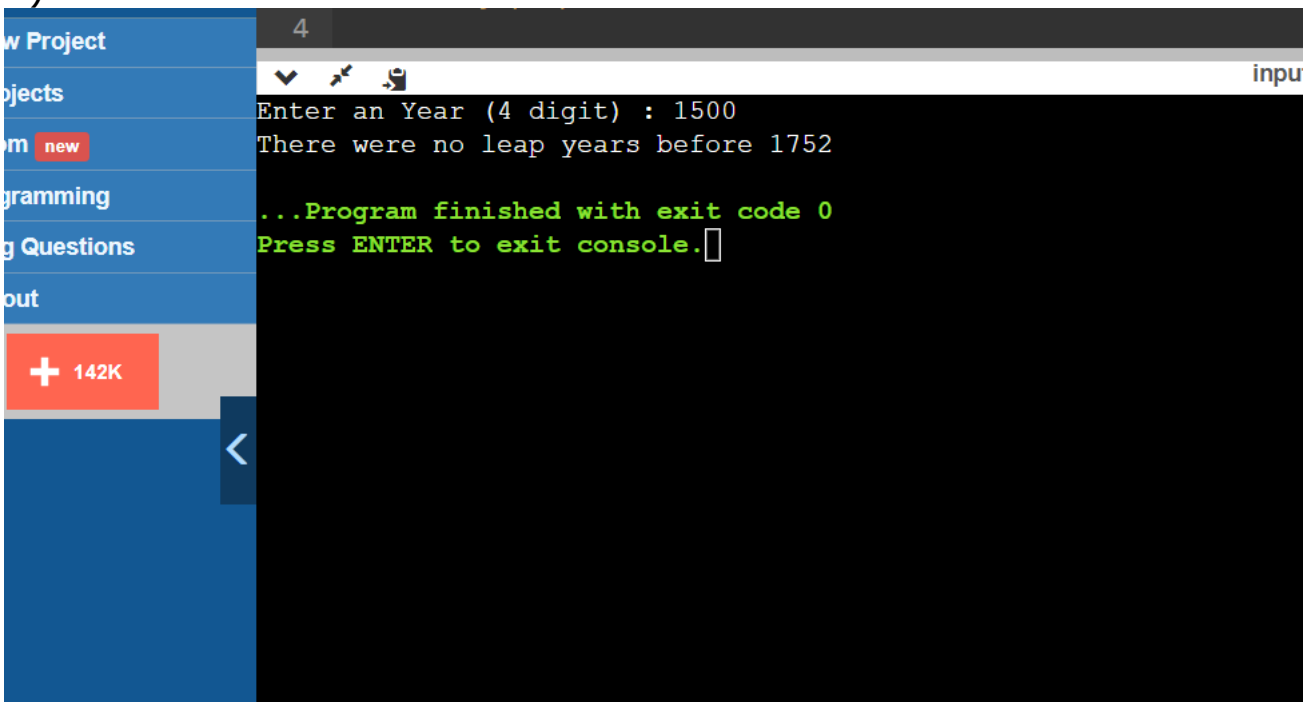

Start
void LEAPORNOLEAP(int yr)
if (year>1752)
Print "There were no leap years before 1752"
Yes
if(year%4==0 && (year%400==0 || year%100!=0))
No
Print "Not a leap year"
Yes
Print "Leap Year"
int yr
Read yr
LEAPORNOLEAP(yr)
End

Code:

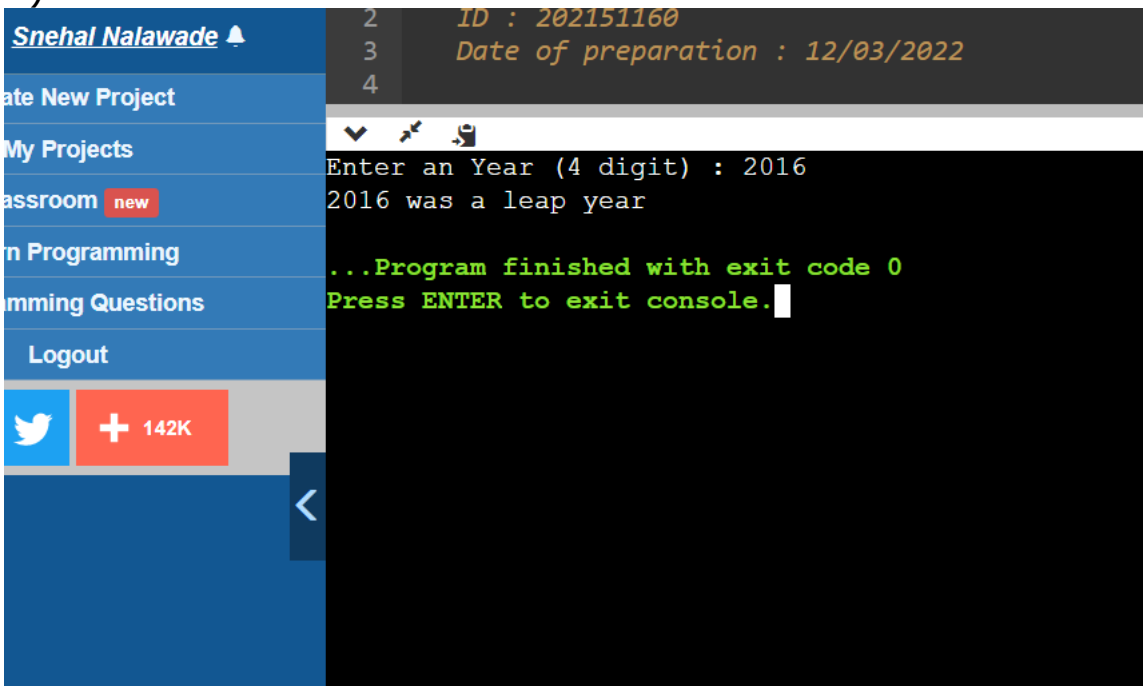


Sample output :

1)



2)



Conclusion : The C code has been executed successfully and the desired results are obtained.

2]

Aim : Write a program to print the pattern C IS BEST, using a user defined function, as shown below.

C

i I

s s

b b

e e

s s

t s e b s i C i s b e s t

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

Algorithm :

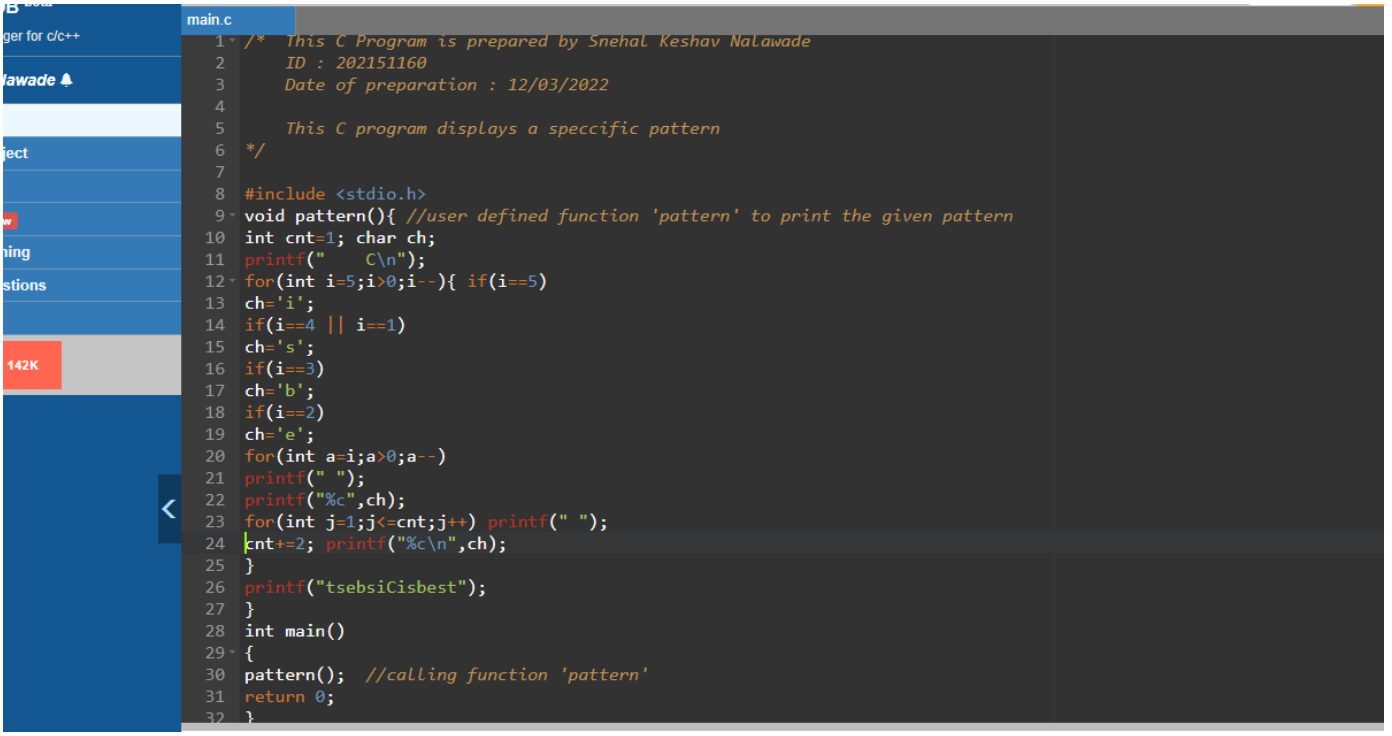
Step 1: Start

Step 2: Create function pattern with void return type and no parameter.

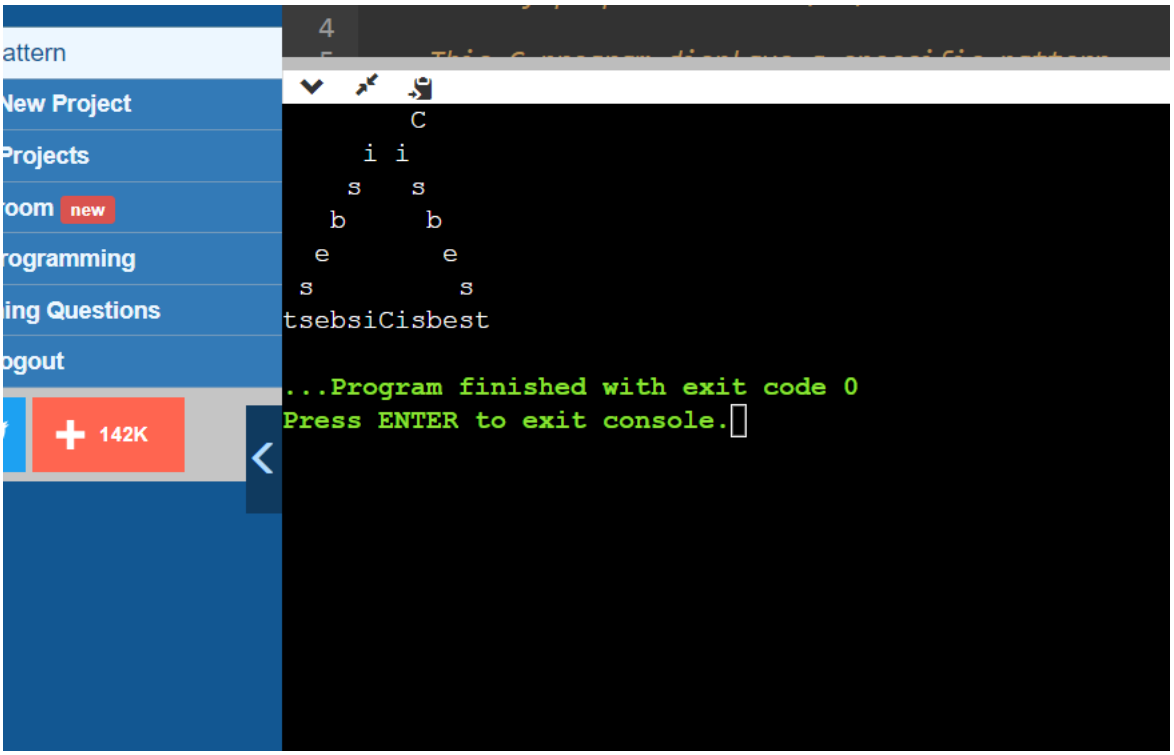
Step 3: Use multiple if-else statements inside for loop to print the desired pattern.

Step 4: END.

Code :



Output :



Conclusion : The C code has been executed successfully and the desired results are obtained.

Thank you