# INTRODUCTION TO C

## C is a

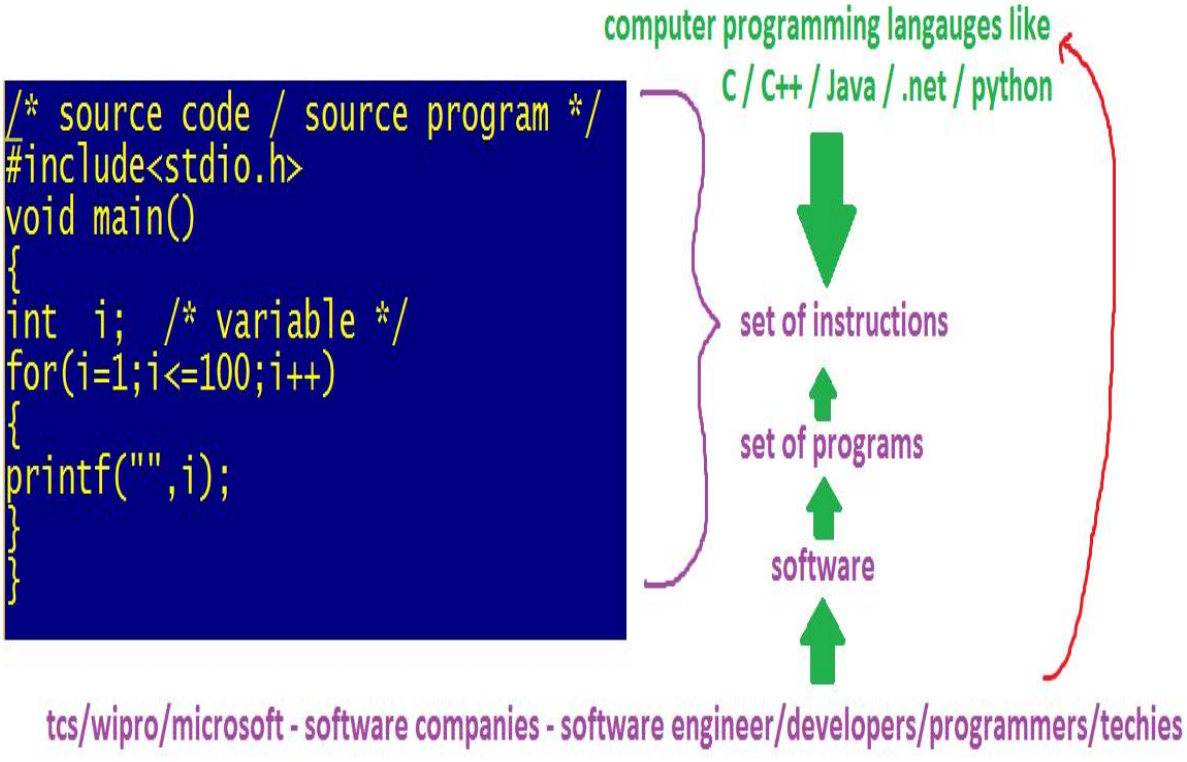
1. It is a high level / middle level programming language.
2. C is a compiler based programming language.

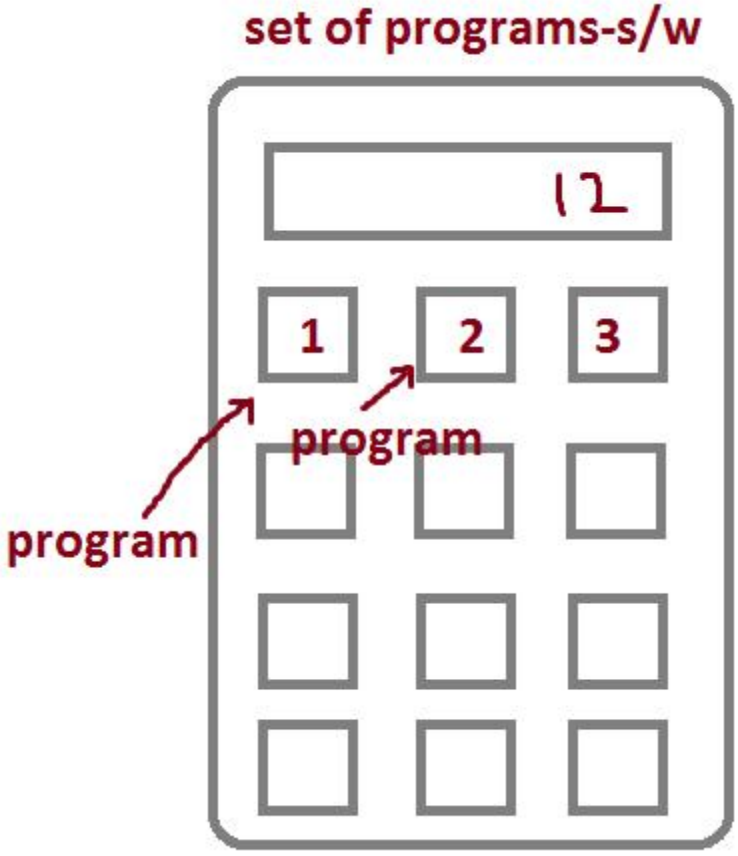
**What is a program?**

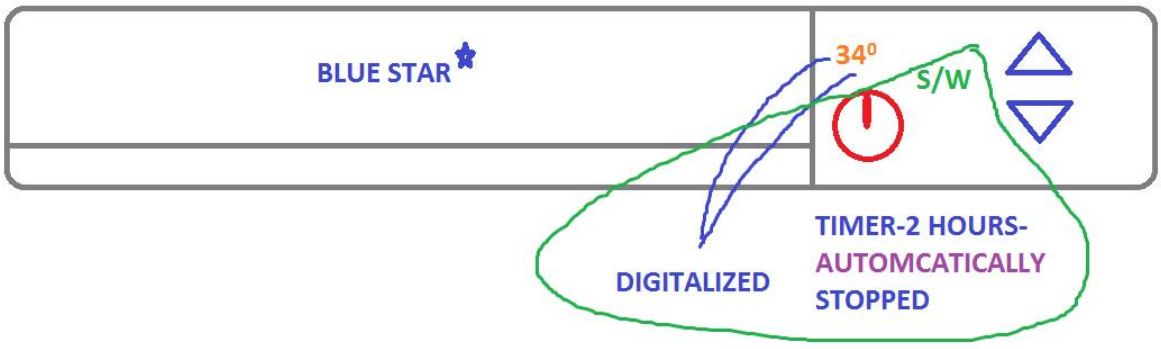
**Set of instructions is called program.**

**What is a software?**

**Set of programs is called software. As per it industry software is a digitalized and automated process.**






**We are having 2 type of software.**

**1. System software**

**Eg: o.s, device drivers, translators**

**2. Application software**

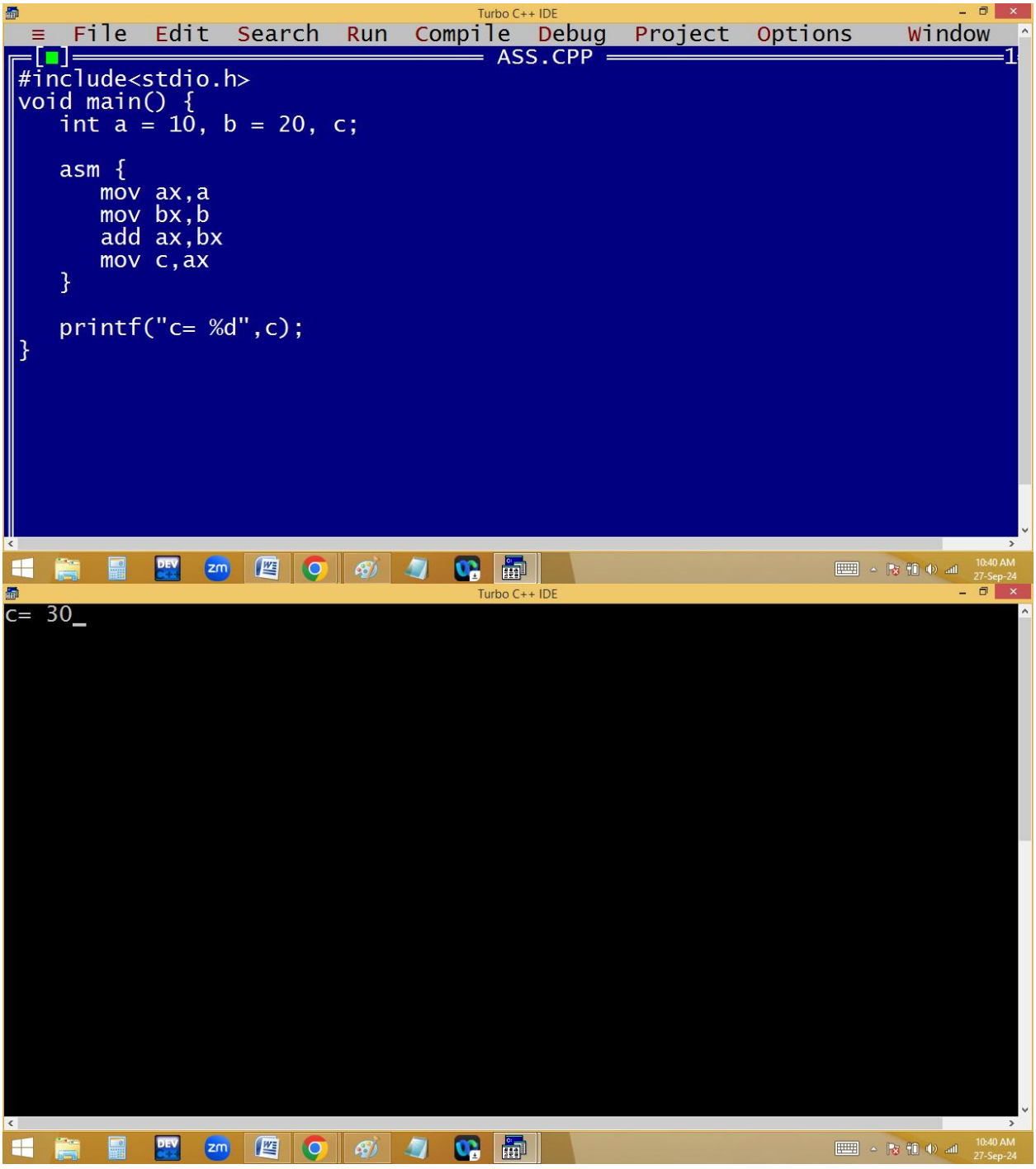
**Eg: phonepe, irctc, whatsapp,instagram,…**

**What is a language?**

**Generally the languages like telugu / English / Marathi / hindi etc are used to communicate with humans. Hence they are called human languages / regional languages. By using these human languages we can't communicate with the machines. Hence we are using the computer programming languages like C / C++ / Java / .net / pythos etc. By using these languages we are creating the software [ programs ] to communicate.**

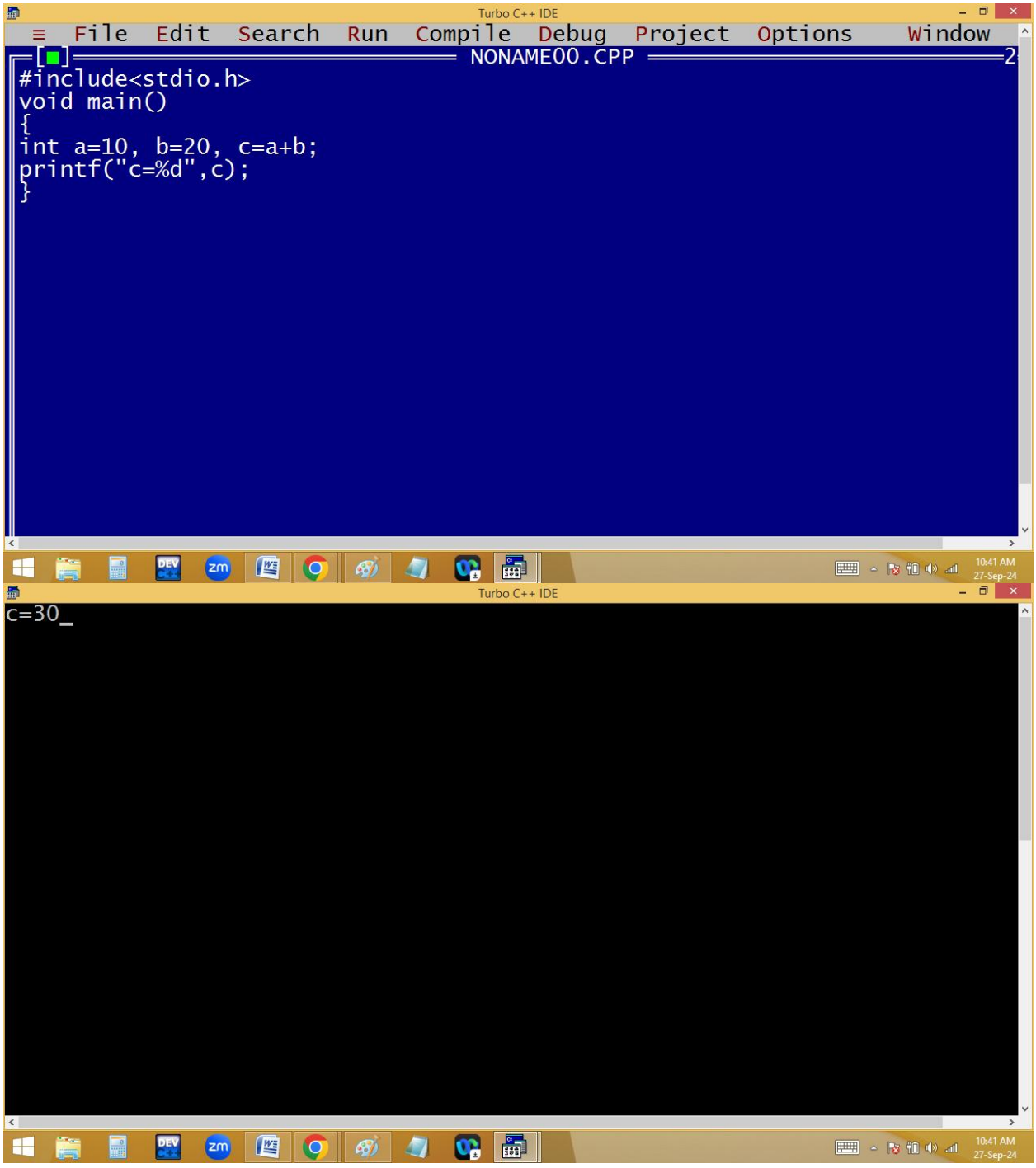
**Basically the languages are divided into 3 types.**

1. **Machine language: Created with binary code [0,1] and very difficult to understand.**
   **Eg: 1000111**
2. **Low level / assembly language: Created with English like shortcuts called MNEMONICS.**
   **Eg: gd mrg, plz, sub,…….**




3. **High level language: Created with simple English and easy to understand.**

**Eg: good morning, please, subject,….**




**C comes with both low level and high level features. Hence it is a middle level language. Because of both features using c we can develop system software and**

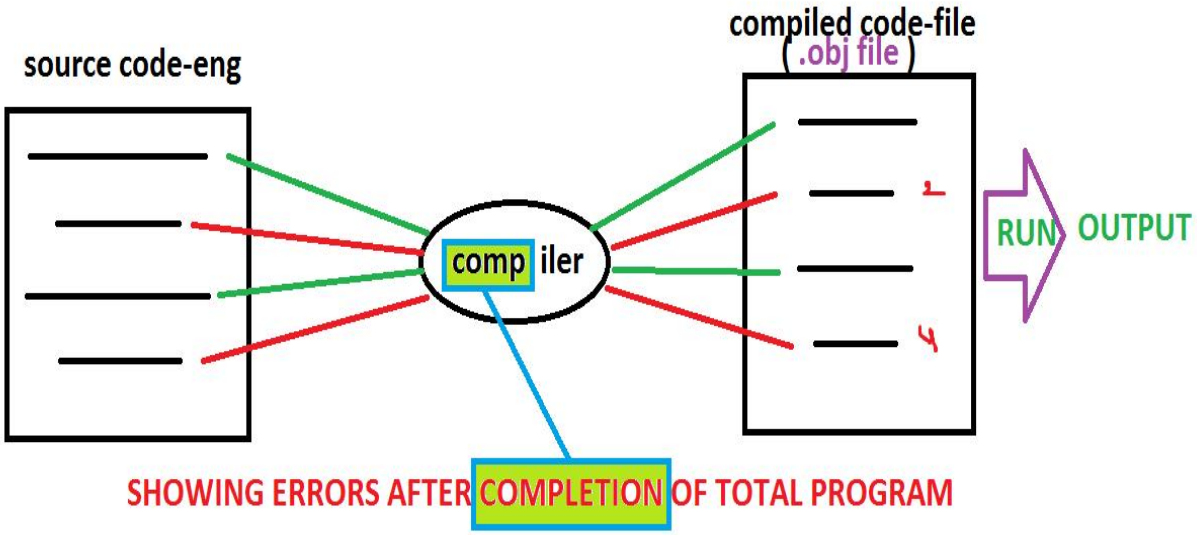
**application software. Hence c is a multi-purpose programming language.**

**What is a compiler?**

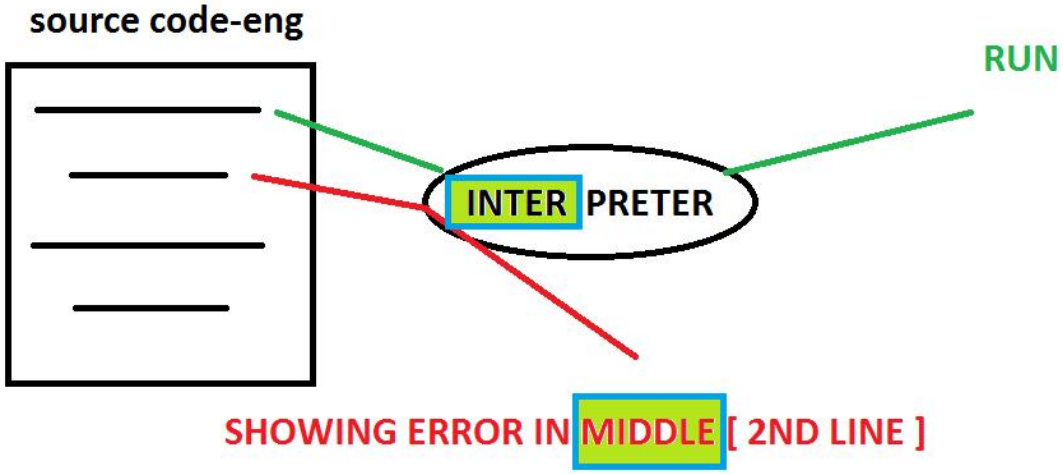

**Always the user given instructions are in English, which is called source code or so9urce program. But the machine understandable language is binary code / machine language. To convert the source code to binary code and to check the errors we are using the translators like Compiler / interpreter / assembler.**

**Compiler and interpreter both are used to convert high level programs to machine language [ binary code ].**

**Compiler converts the total program into binary code at once by leaving error lines.**




**Interpreter converts line by line.**



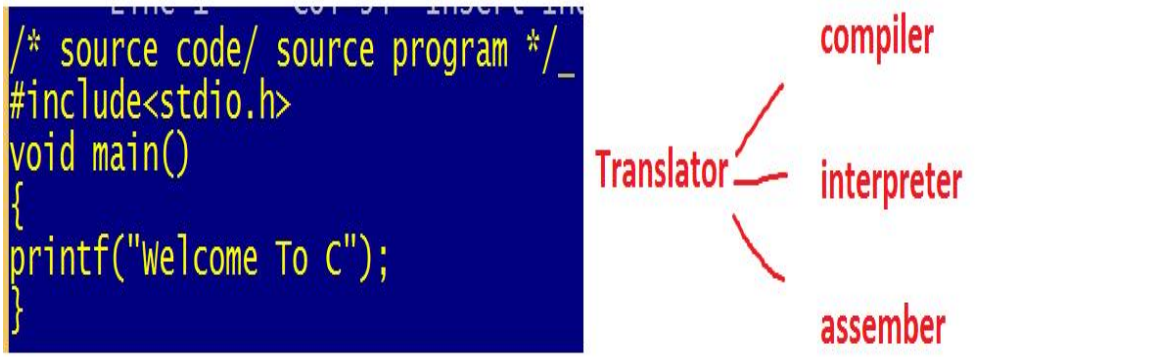

**Assembler is used to convert low level programs to binary code.**

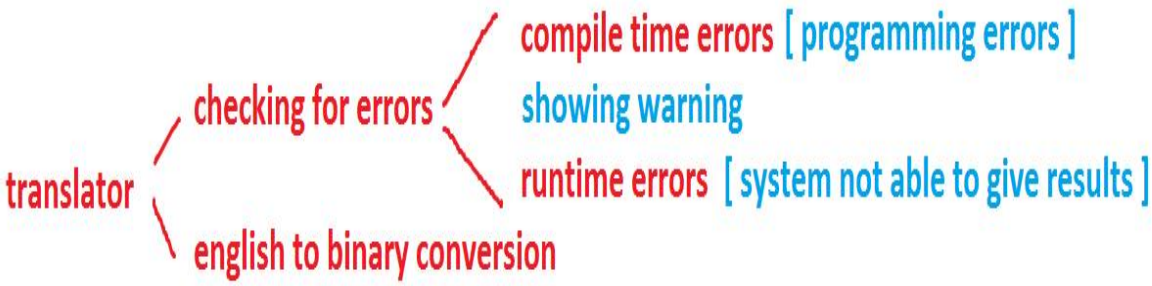
**Assembler working style is similar to the compiler.**

**In c language we are using compiler as a interpreter. Hence it is a compiler based programming language.**

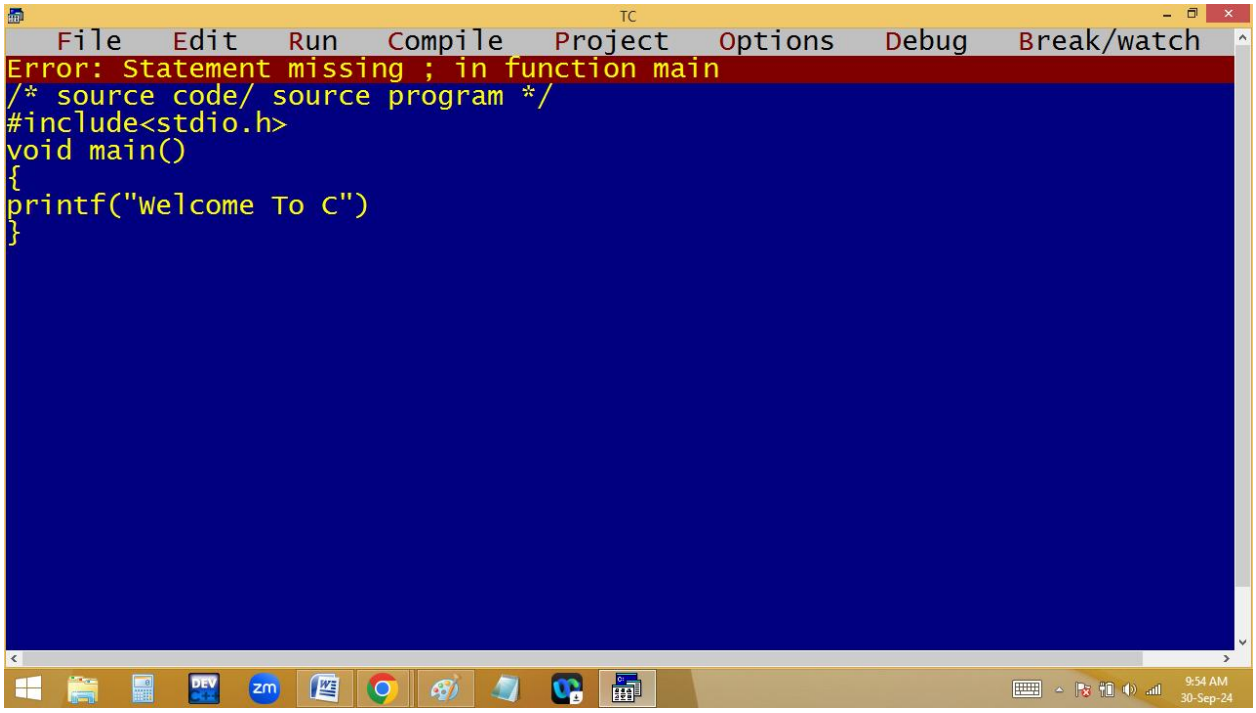
**In java we are using both compiler and interpreter. Hence it is a compiler based interpreted language.**

```c
/* source code/ source program */
#include<stdio.h>
void main()
{
printf("Welcome To C");
}
```

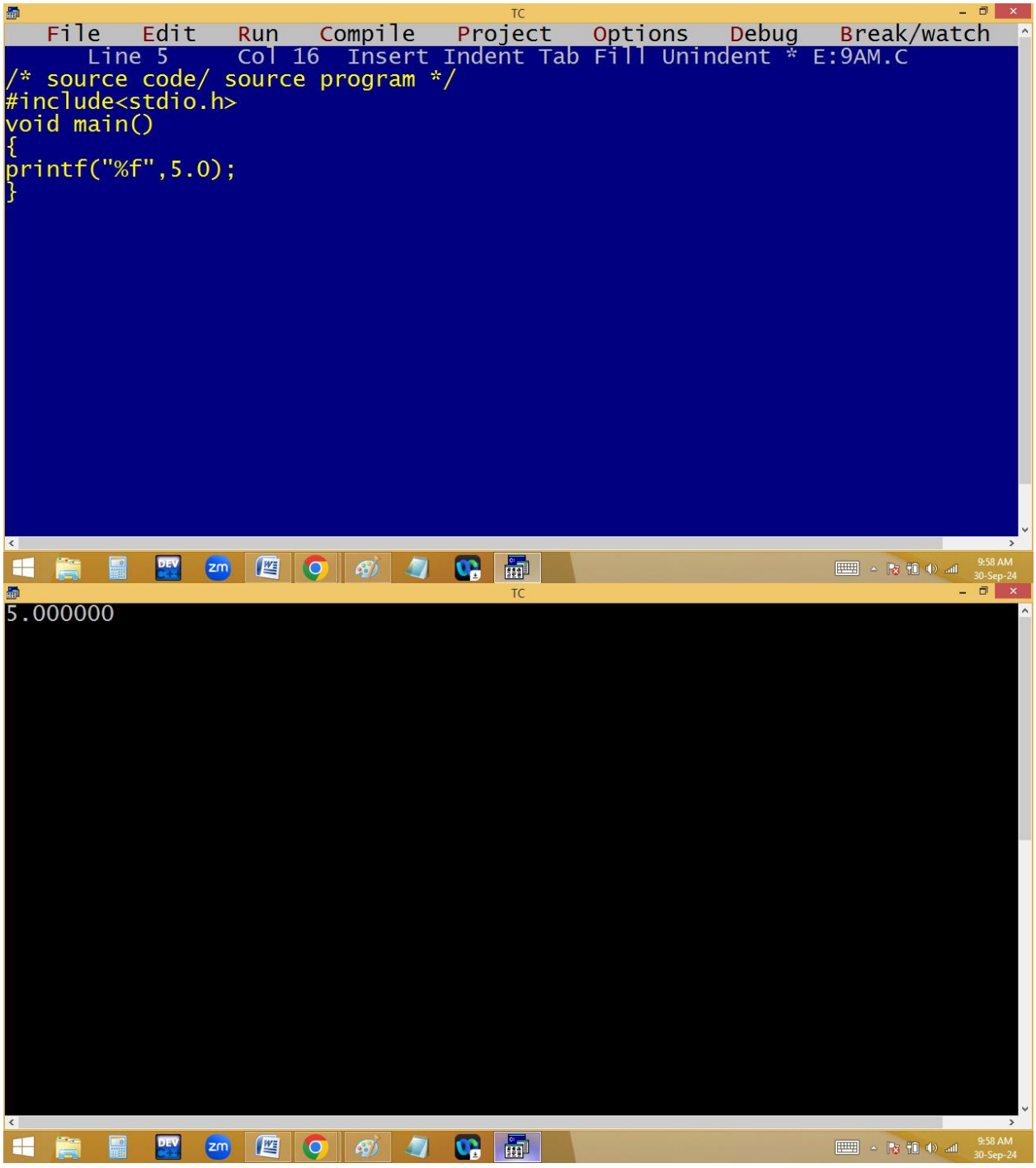


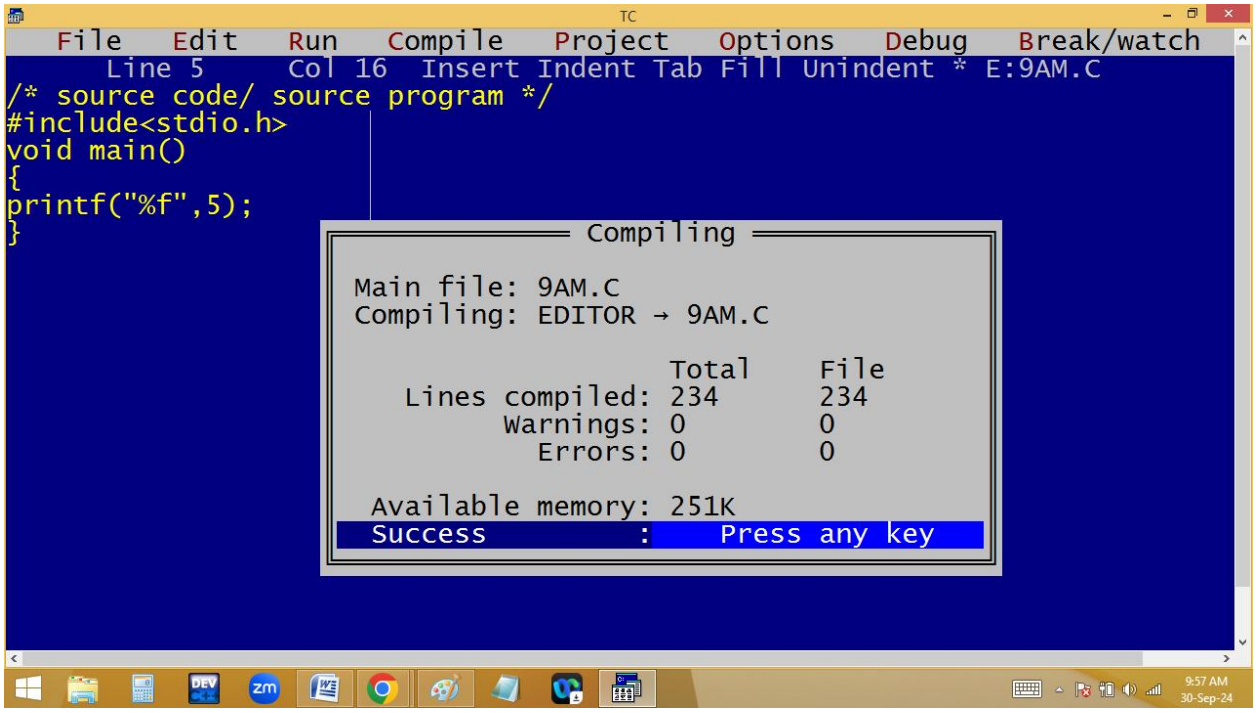



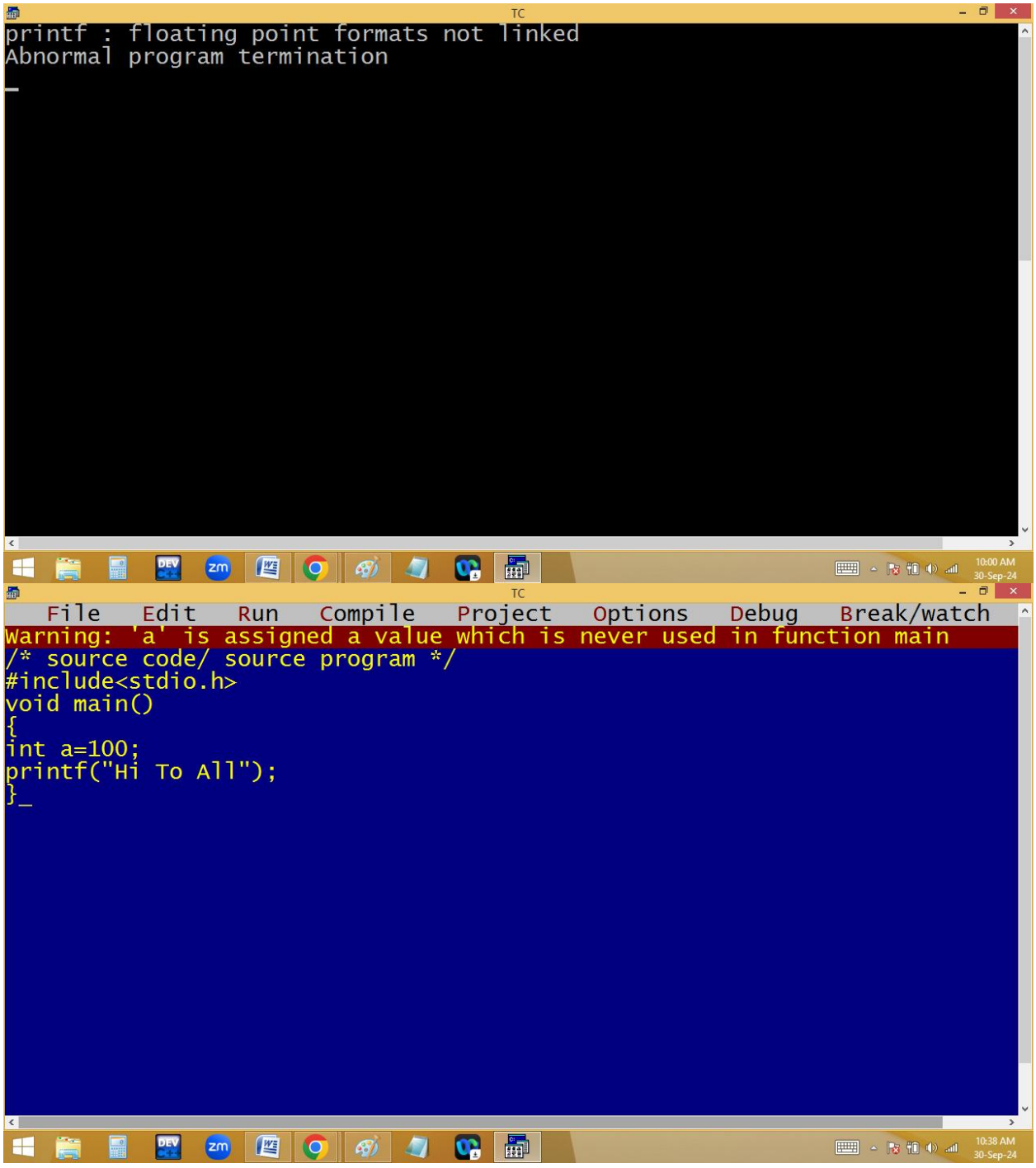

**Example for compile time error:**

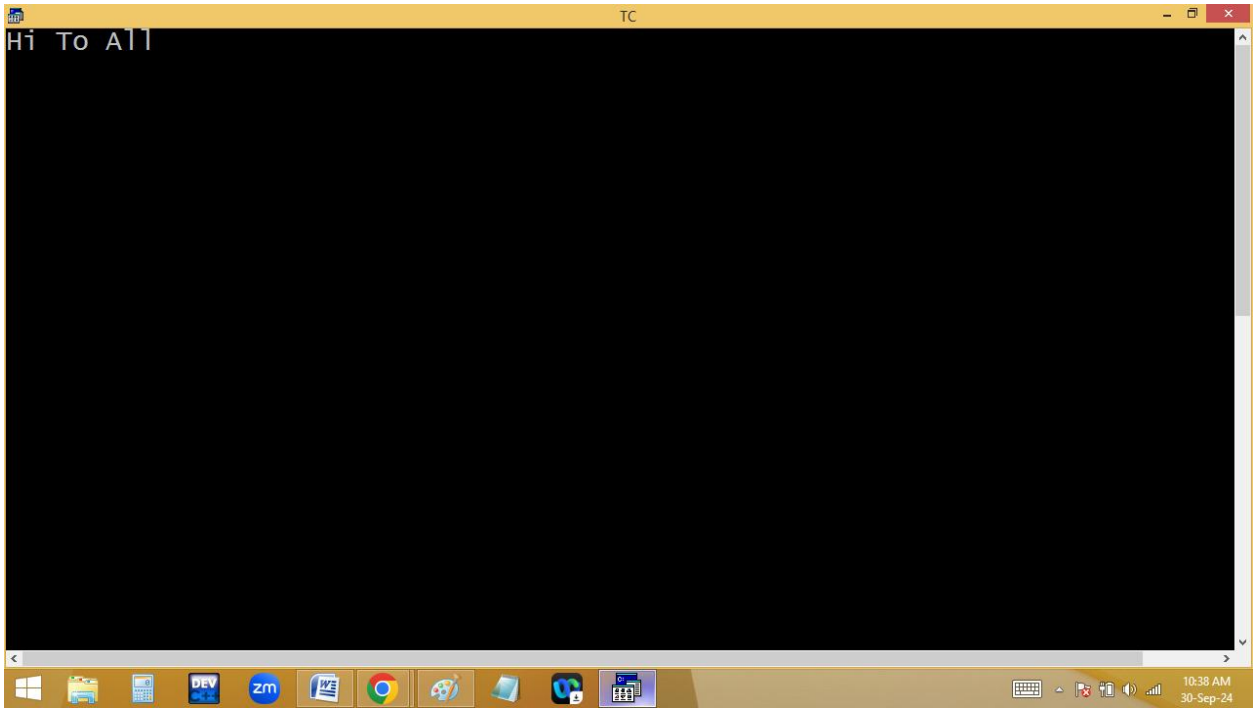



## Example for runtime error:


TC
File Edit Run Compile Project Options Debug Break/watch
Line 5 Col 16 Insert Indent Tab Fill Unindent * E:9AM.C
/* source code/ source program */
#include<stdio.h>
void main()
{
printf("%f",5.0);
}
9:58 AM
30-Sep-24
TC
5.000000
9:58 AM
30-Sep-24


TC
File Edit Run Compile Project Options Debug Break/watch
Line 5 Col 16 Insert Indent Tab Fill Unindent * E:9AM.C
/* source code/ source program */
#include<stdio.h>
void main()
{
printf("%f",5);
}
Compiling
Main file: 9AM.C
Compiling: EDITOR → 9AM.C
Total File
Lines compiled: 234 234
Warnings: 0 0
Errors: 0 0
Available memory: 251K
Success : Press any key


TC
printf : floating point formats not linked
Abnormal program termination
TC
File Edit Run Compile Project Options Debug Break/watch
Warning: 'a' is assigned a value which is never used in function main
/* source code/ source program */
#include<stdio.h>
void main()
{
int a=100;
printf("Hi To All");
}


TC
Hi To All
10:38 AM
30-Sep-24