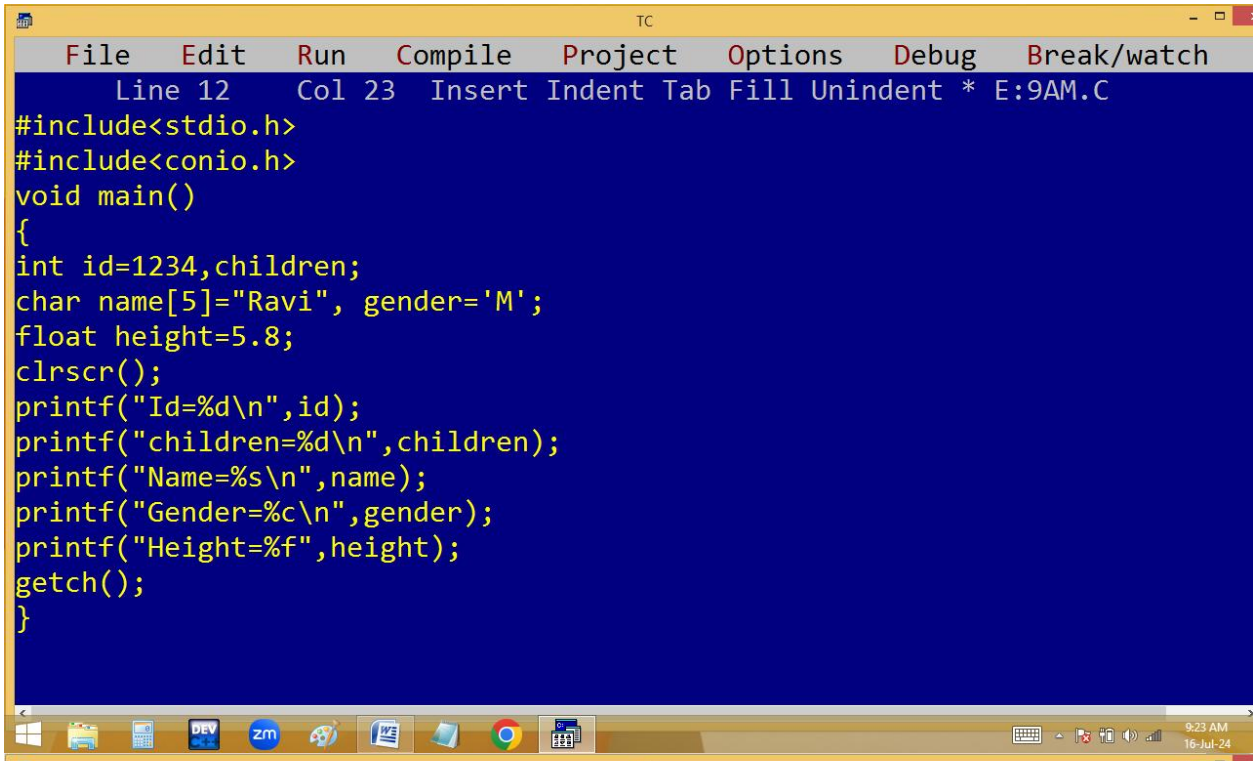
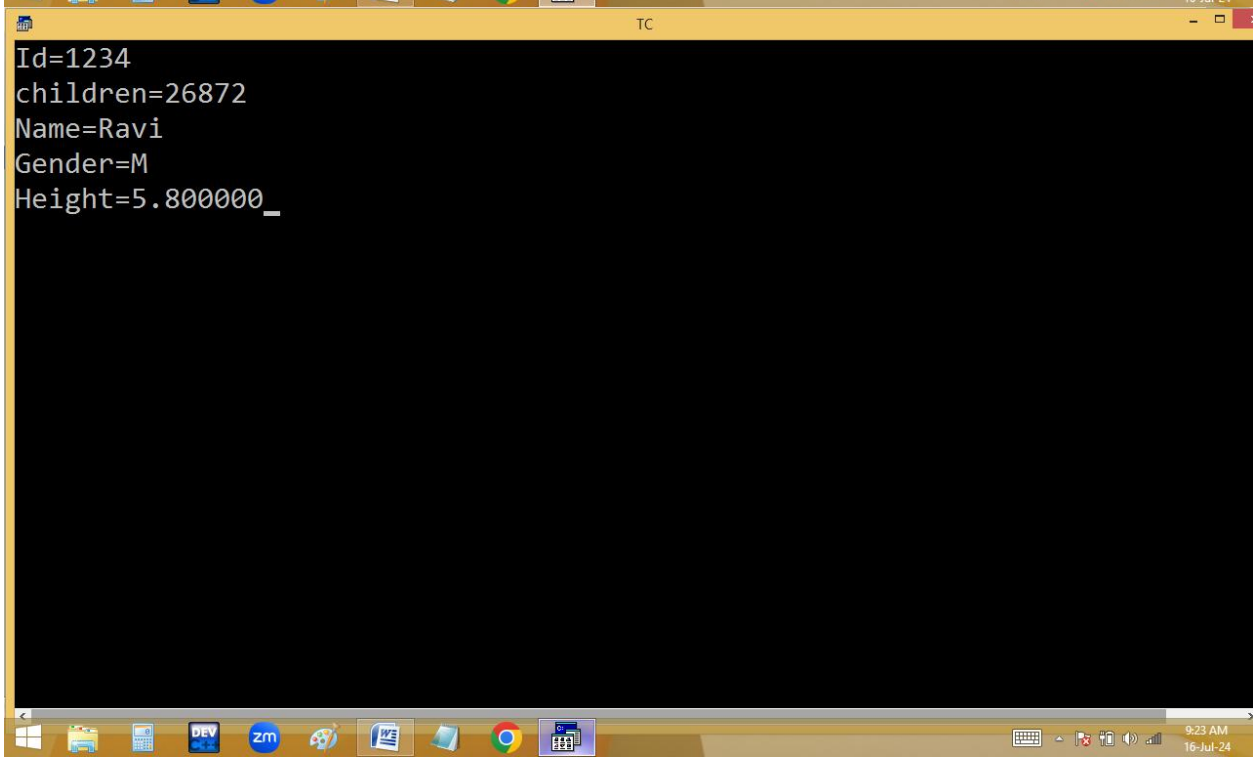
Eg:

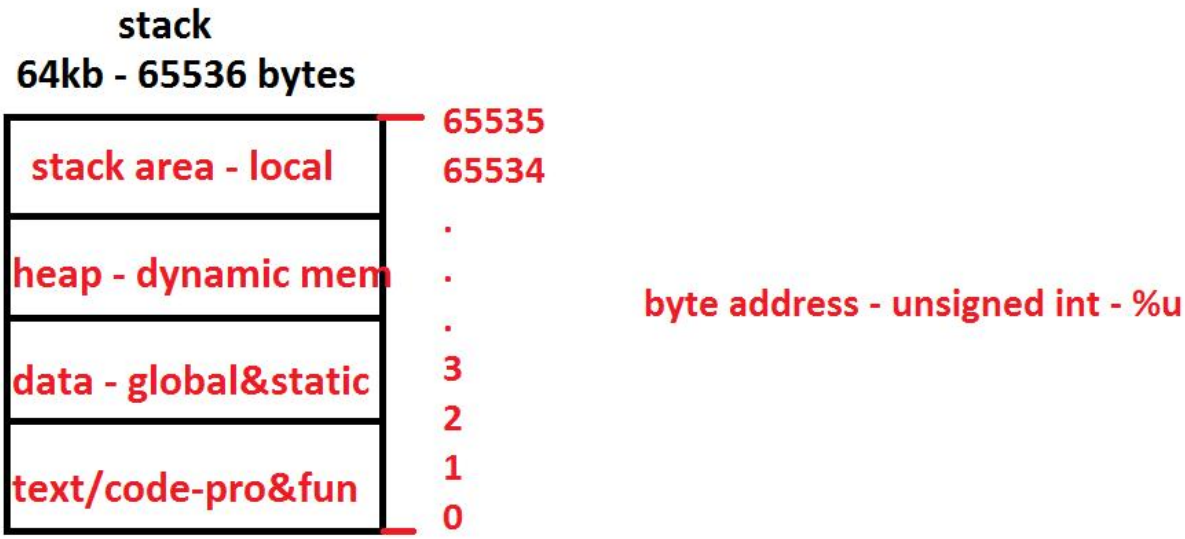
```
Int  id=1234, children;
Char name[ ]=”Ravi”, gender=’M’;
float height=5.8;
```

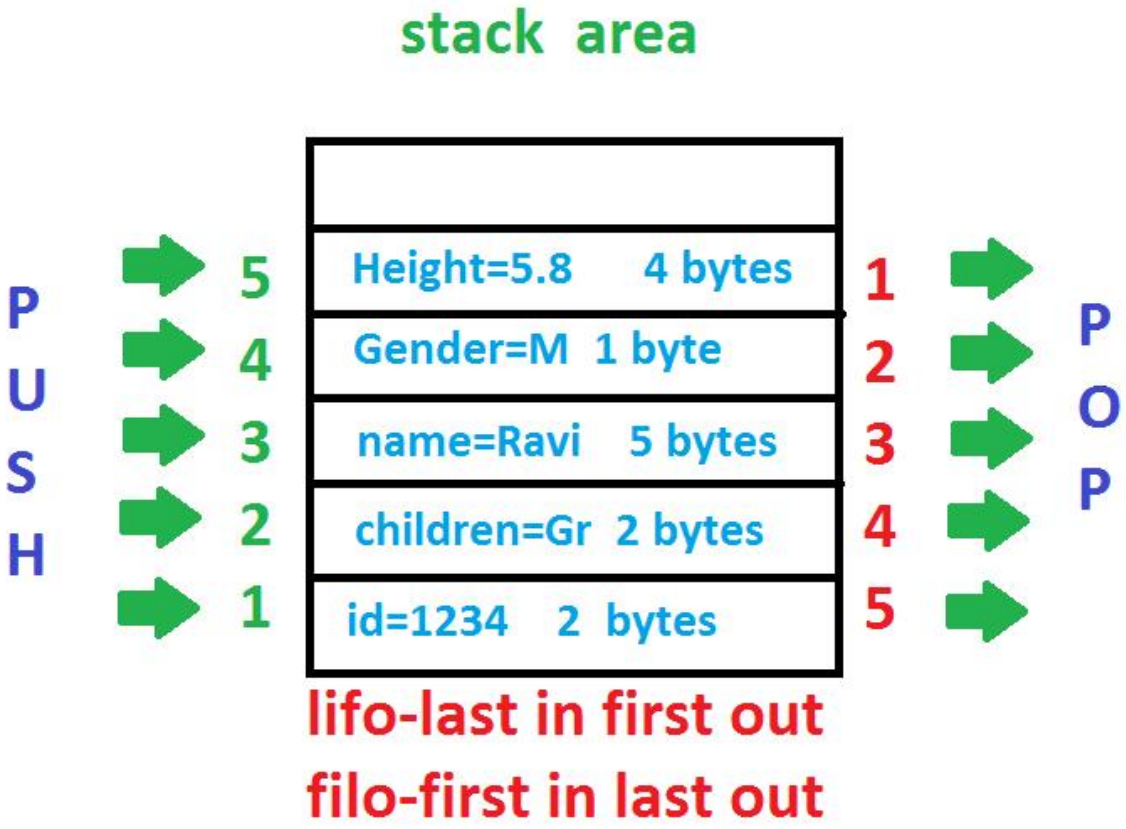

TC
File Edit Run Compile Project Options Debug Break/watch
Line 12 Col 23 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int id=1234,children;
char name[5]="Ravi", gender='M';
float height=5.8;
clrscr();
printf("Id=%d\n",id);
printf("children=%d\n",children);
printf("Name=%s\n",name);
printf("Gender=%c\n",gender);
printf("Height=%f",height);
getch();
}


TC
Id=1234
children=26872
Name=Ravi
Gender=M
Height=5.800000

Memory allocation for variables:

4 bits = 1 nibble
2 nibbles / 8 bits = 1 byte
1024 bytes = 1 kb
1024kb = 1mb
1024mb=1gb
1024gb=1tb





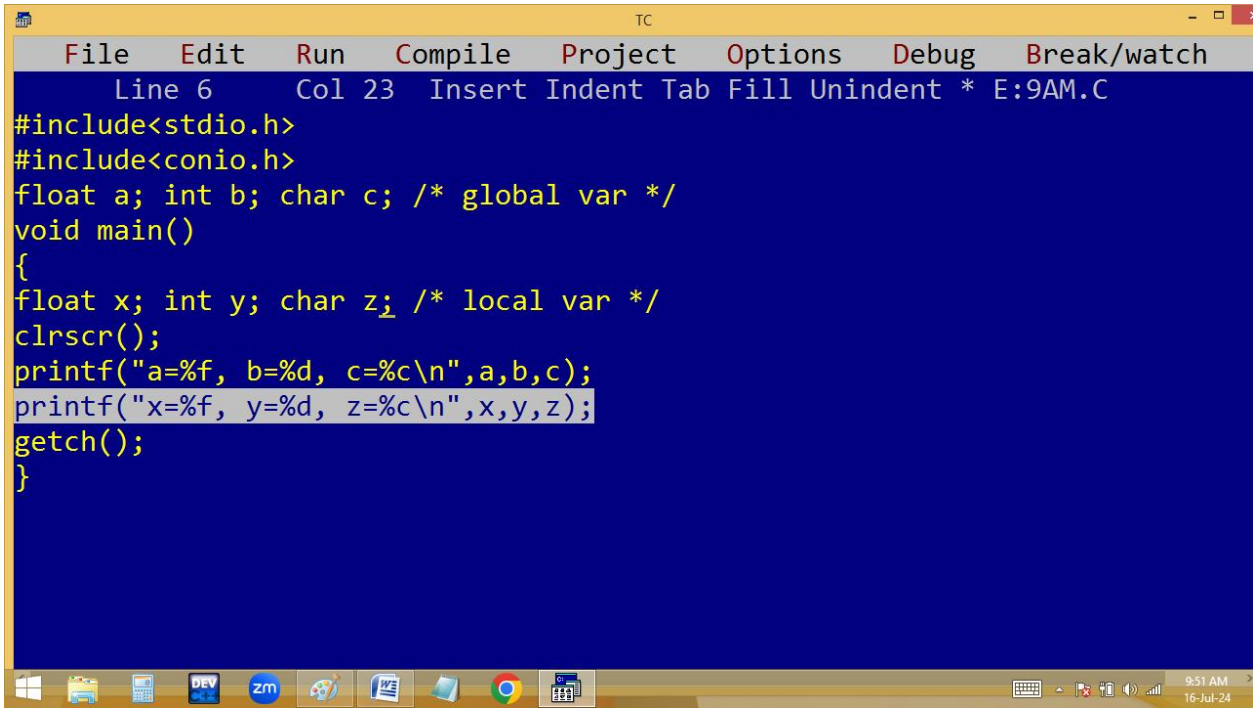
Basically the variables divided into 2 types.

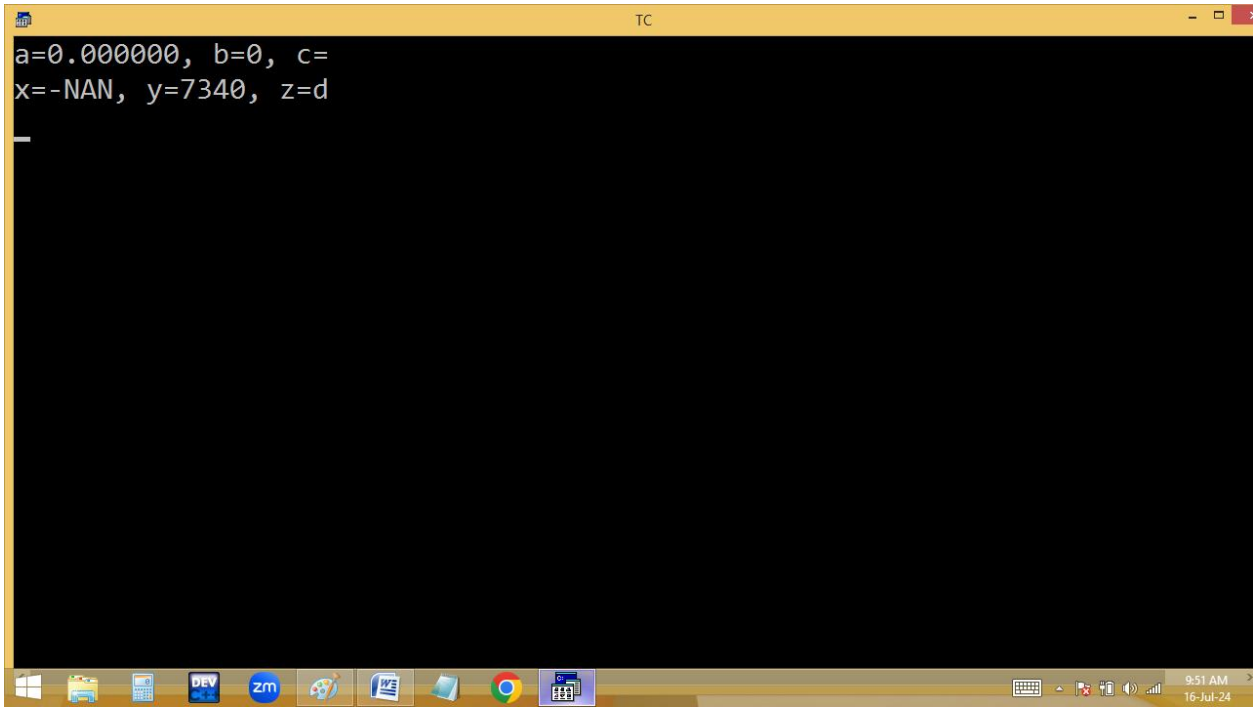
1. Local variables
2. Global variables

	Local variables	Global variables
Declaration	Within fun / { }	Top of program
Storage area	Stack area	Data area
Initial values [starting values]	Garbage values	Int-0, char-blank float-0.00000,
Scope-where we can access	Within fun / { }	Anywhere

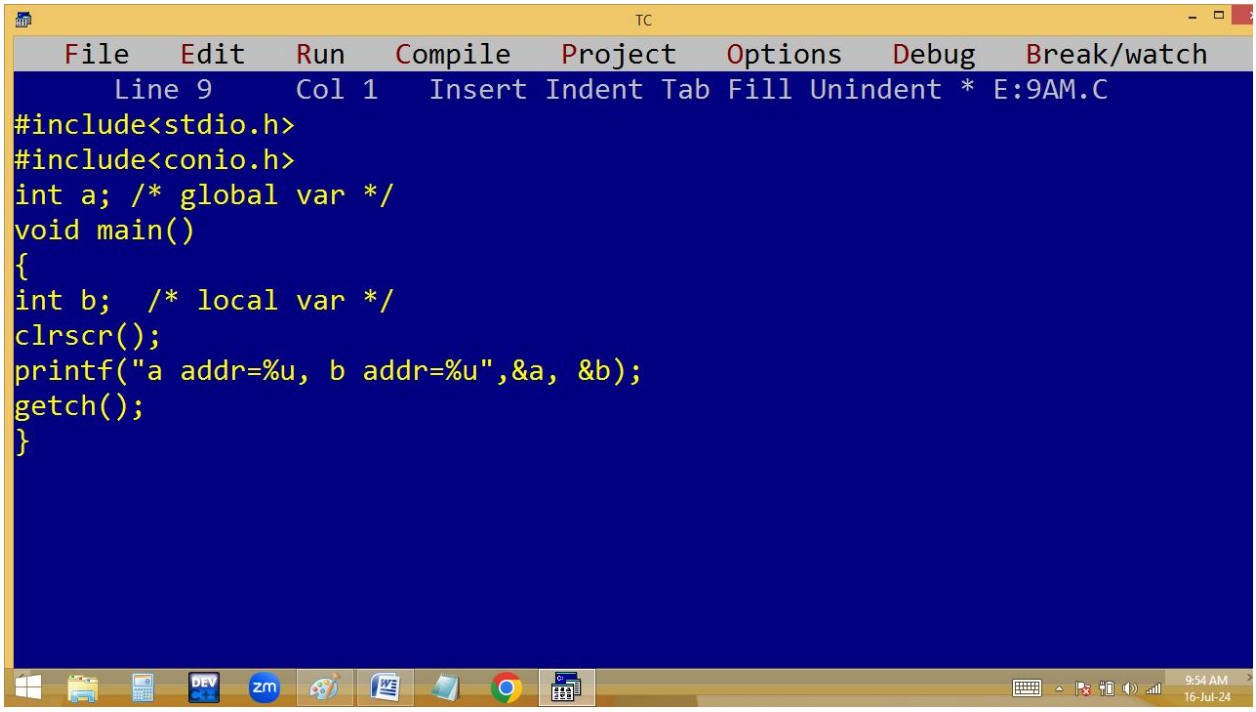
Life time – when the variable is deleted	After fun / { } execution	After main() closed

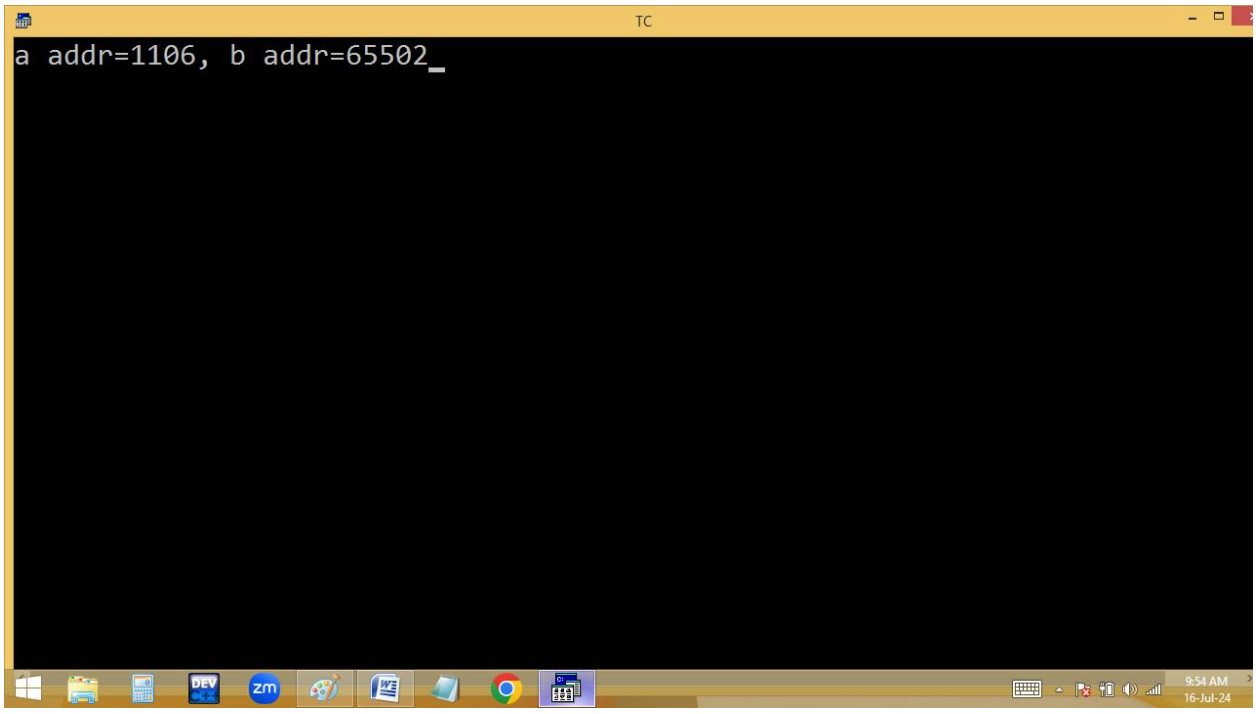
Finding initial value of local and global variables:


TC
File Edit Run Compile Project Options Debug Break/watch
Line 6 Col 23 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
float a; int b; char c; /* global var */
void main()
{
float x; int y; char z; /* local var */
clrscr();
printf("a=%f, b=%d, c=%c\n",a,b,c);
printf("x=%f, y=%d, z=%c\n",x,y,z);
getch();
}

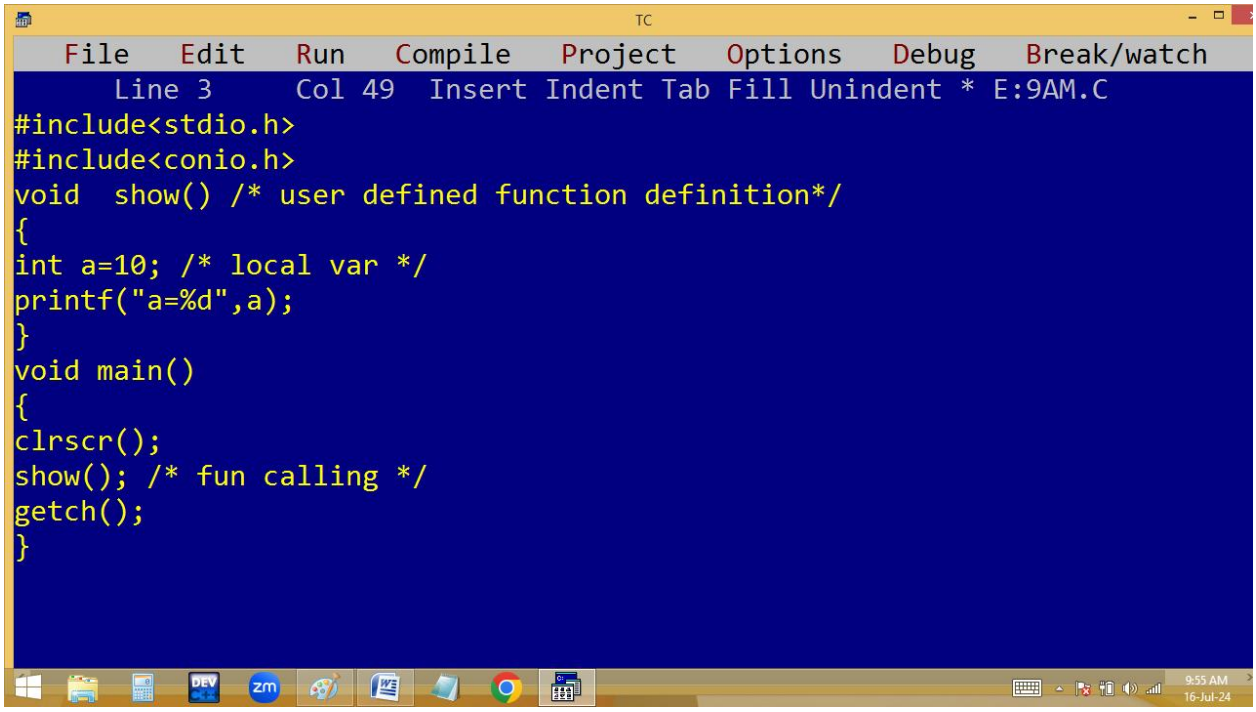

TC
a=0.000000, b=0, c=
x=-NAN, y=7340, z=d

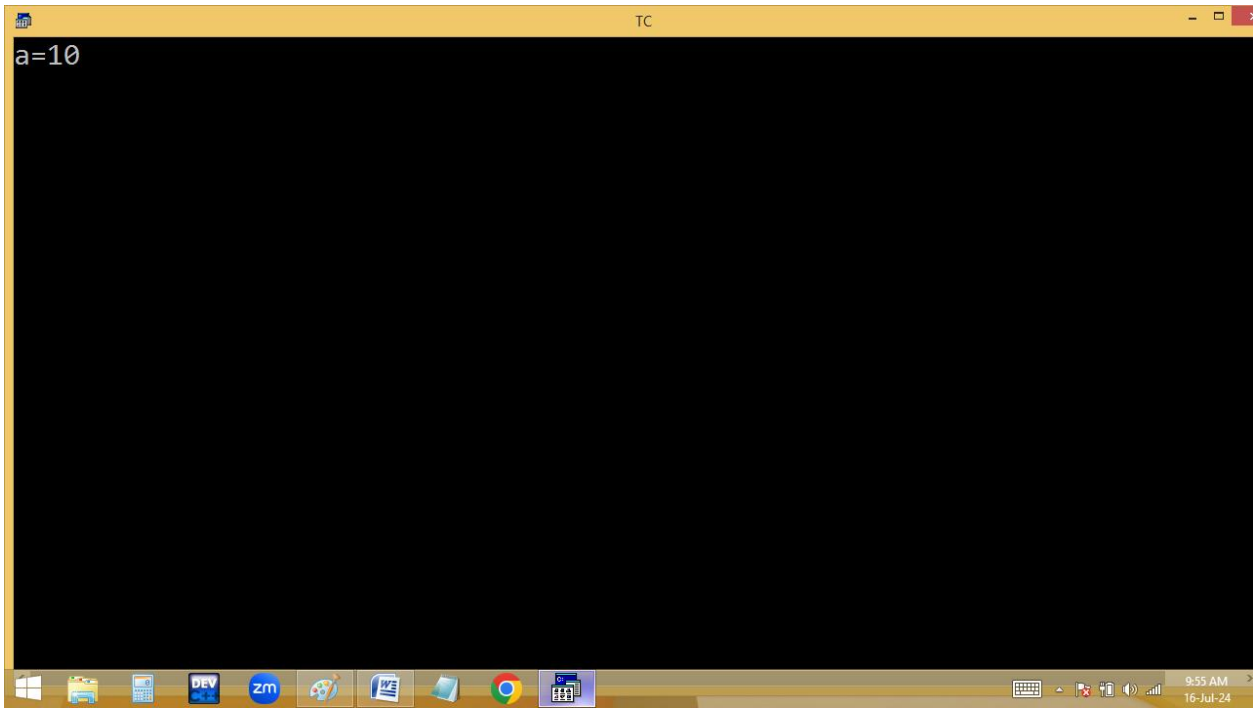
Finding storage are of local and global variables:

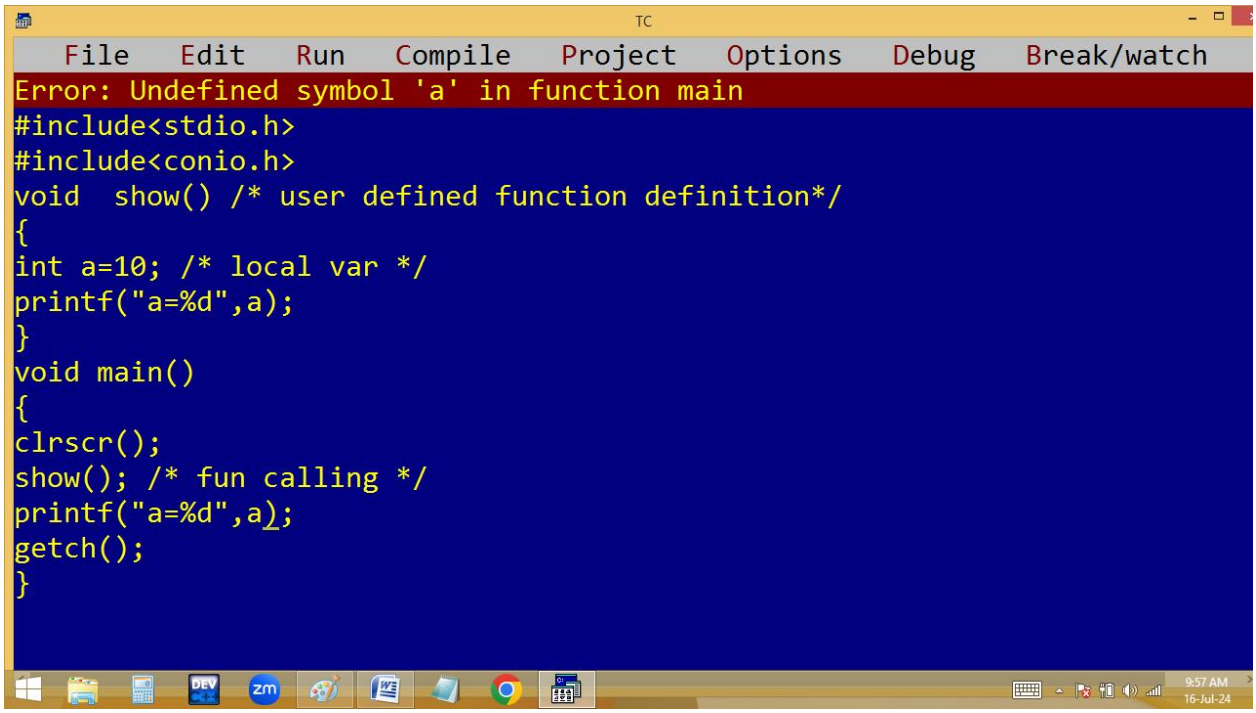




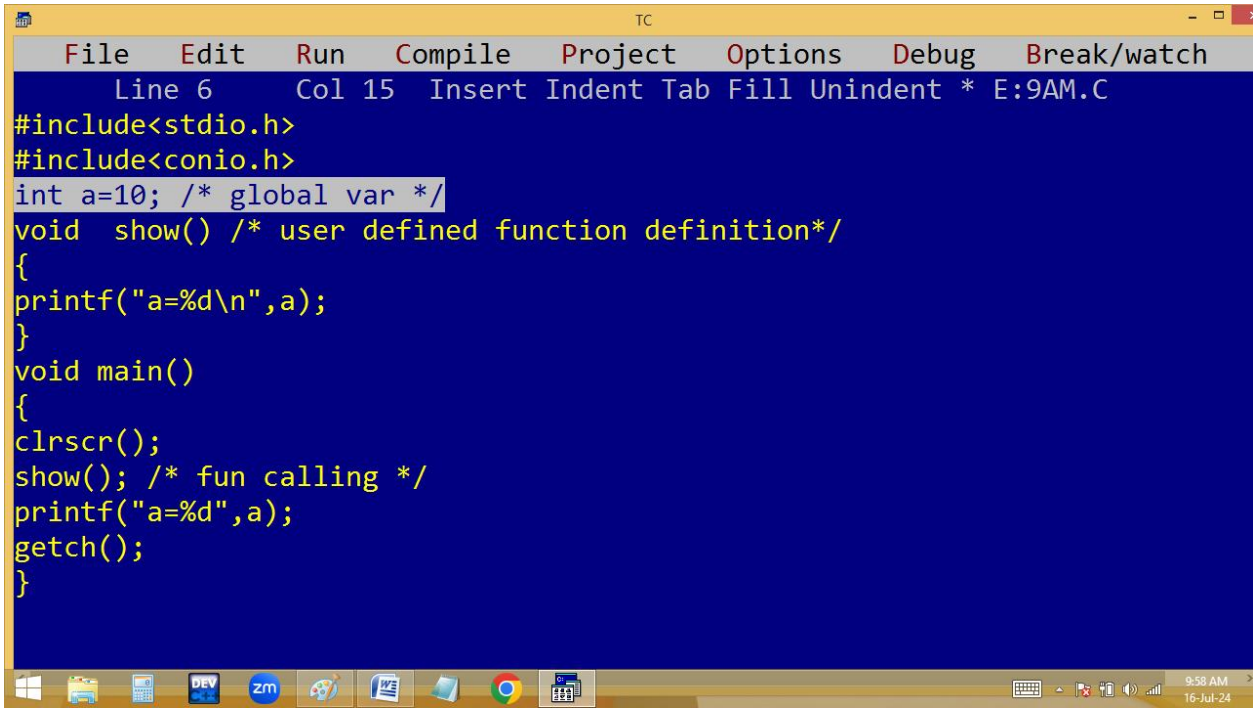
Finding scope of a local variable:

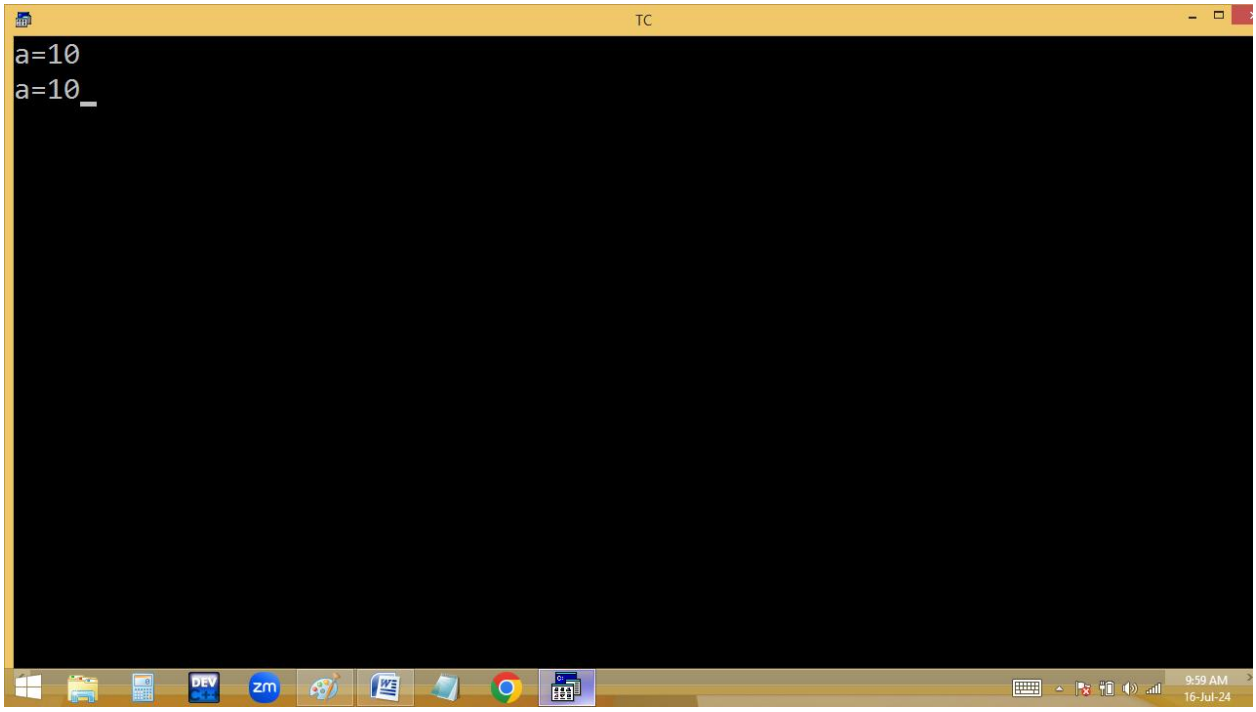




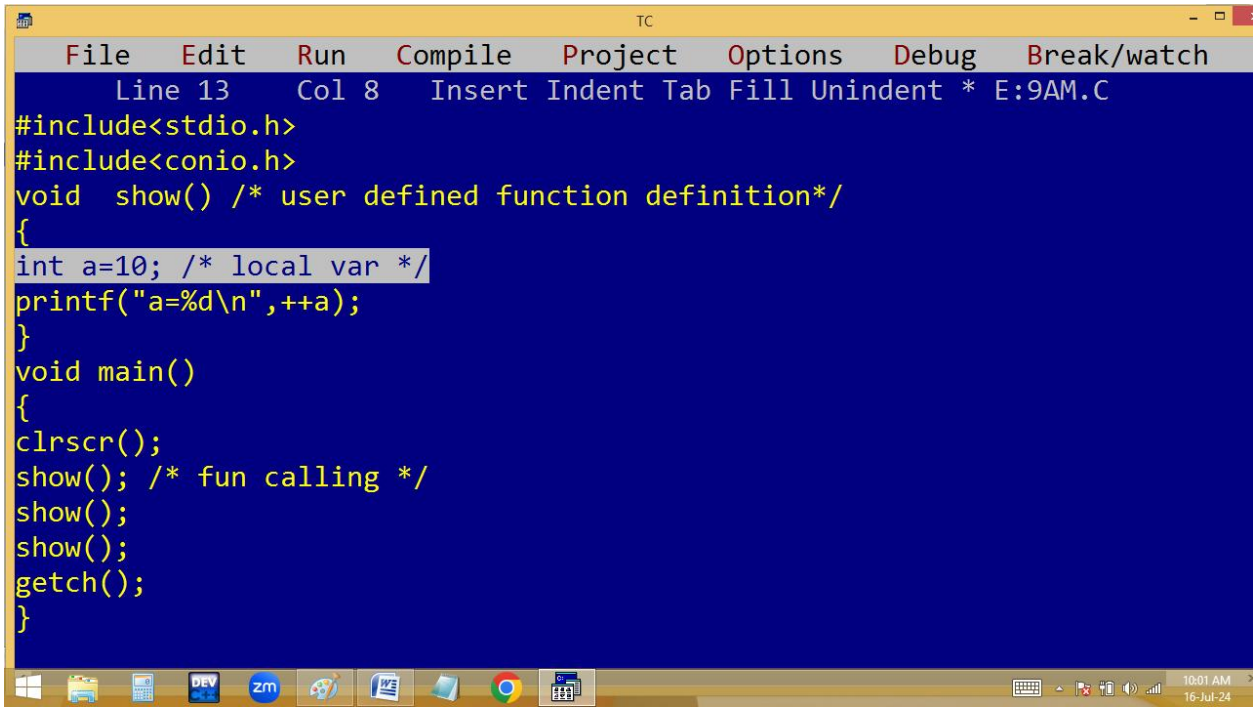


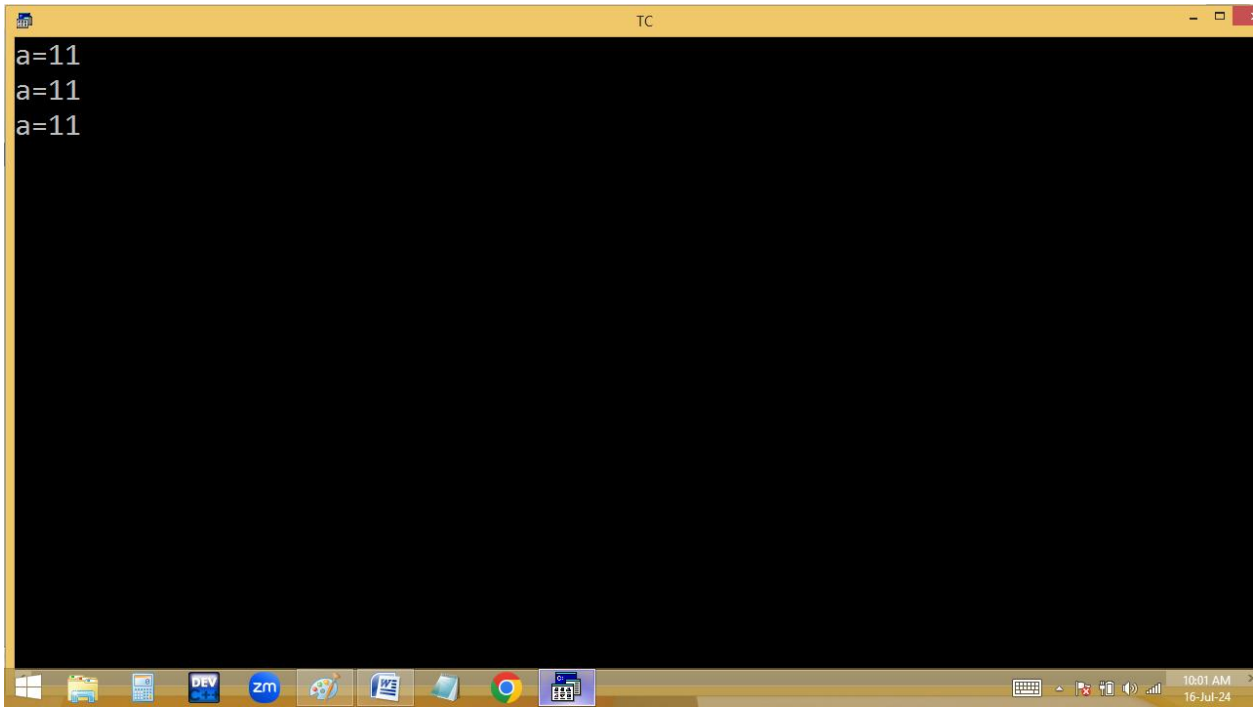
Finding scope of global variable:

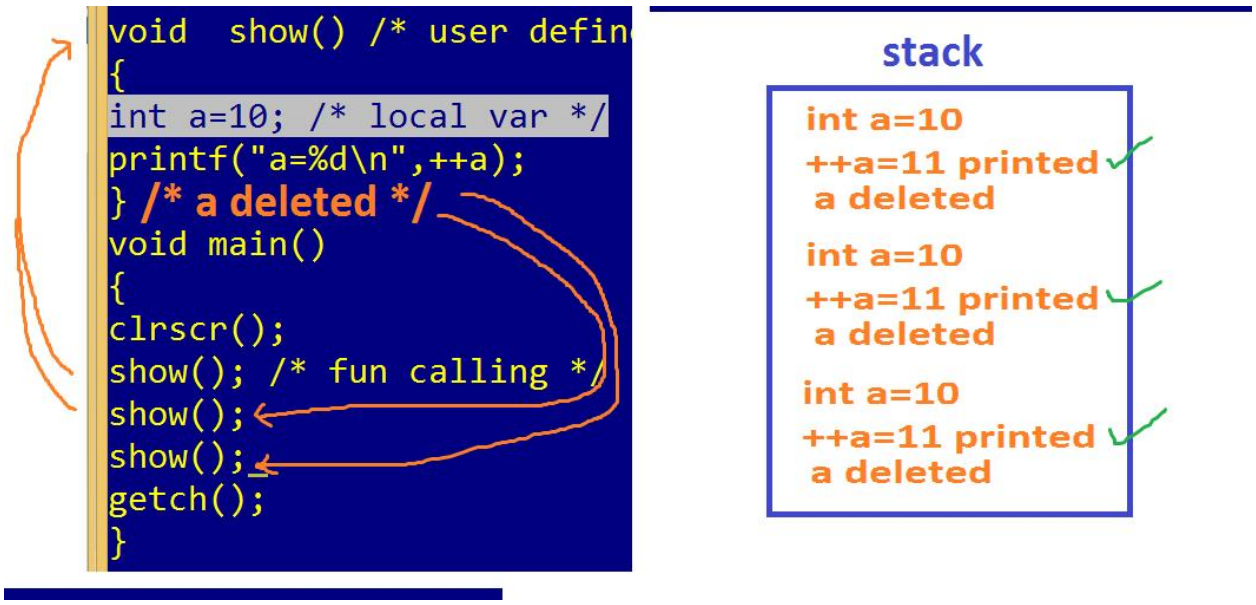

TC
File Edit Run Compile Project Options Debug Break/watch
Line 6 Col 15 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
int a=10; /* global var */
void show() /* user defined function definition*/
{
printf("a=%d\n",a);
}
void main()
{
clrscr();
show(); /* fun calling */
printf("a=%d",a);
getch();
}


TC
a=10
a=10

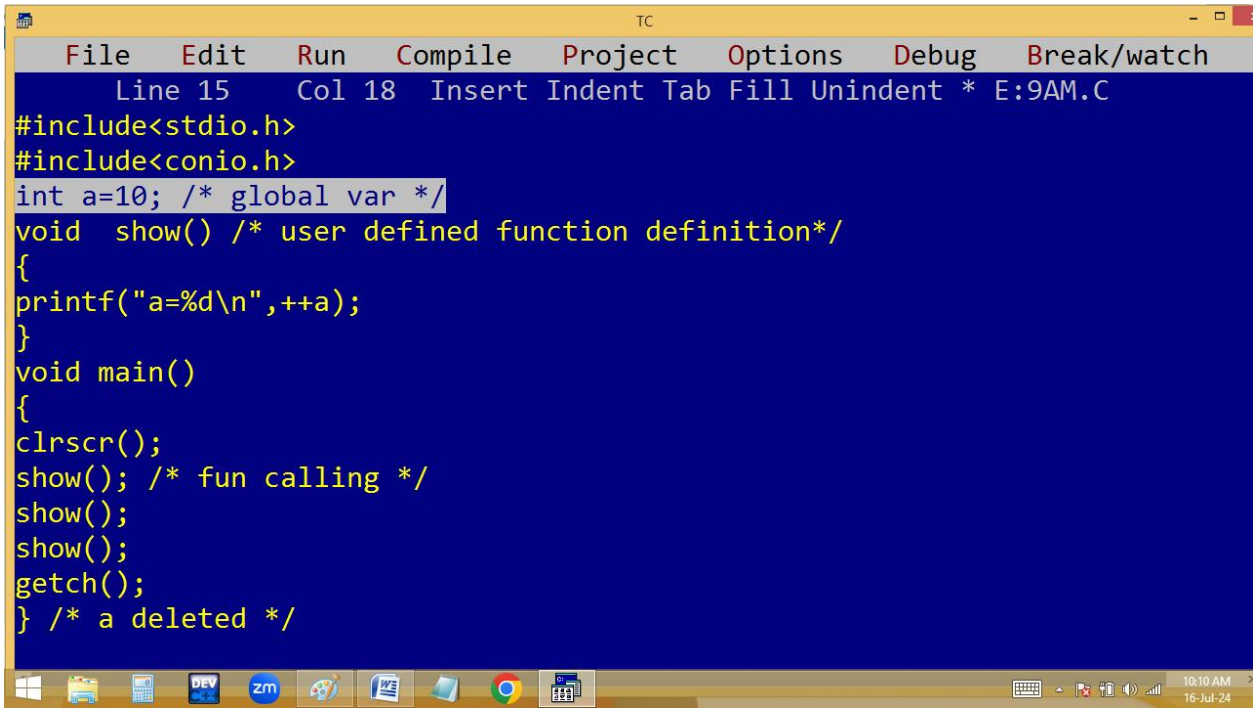
Finding life time of a local variable:

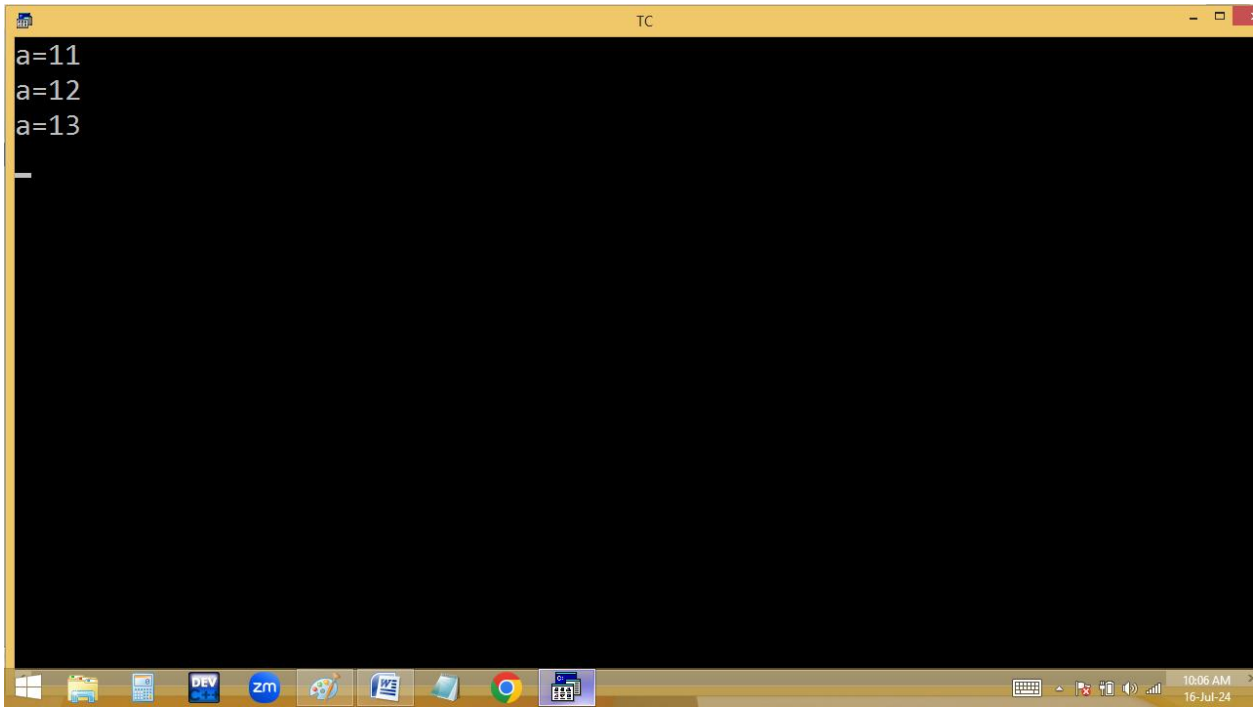


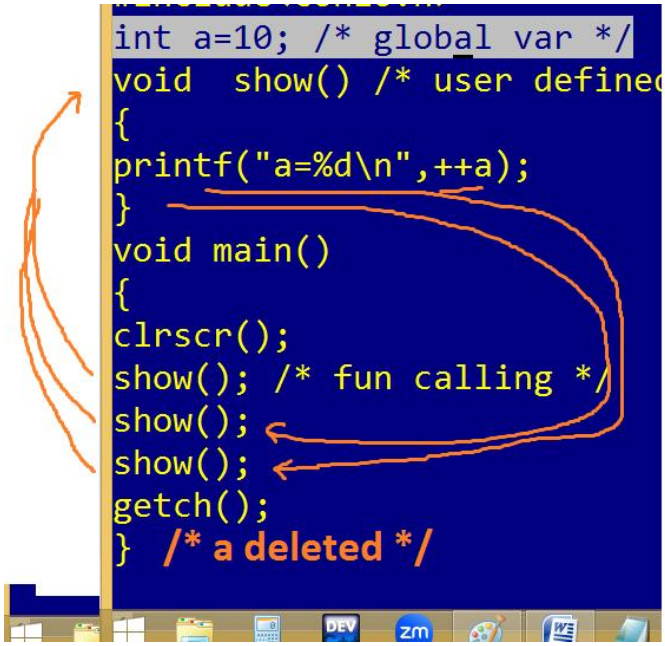




Finding global variable life time:


TC
File Edit Run Compile Project Options Debug Break/watch
Line 15 Col 18 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
int a=10; /* global var */
void show() /* user defined function definition*/
{
printf("a=%d\n",++a);
}
void main()
{
clrscr();
show(); /* fun calling */
show();
show();
getch();
} /* a deleted */


TC
a=11
a=12
a=13



stack

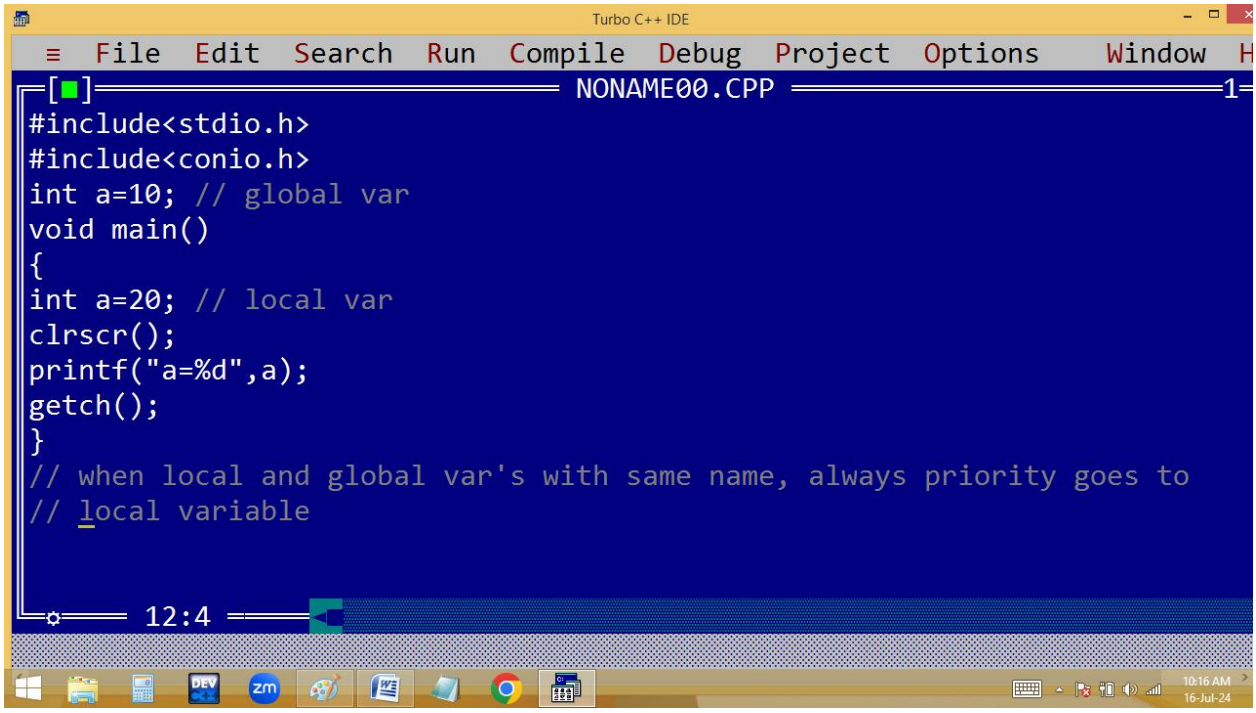
int a=10

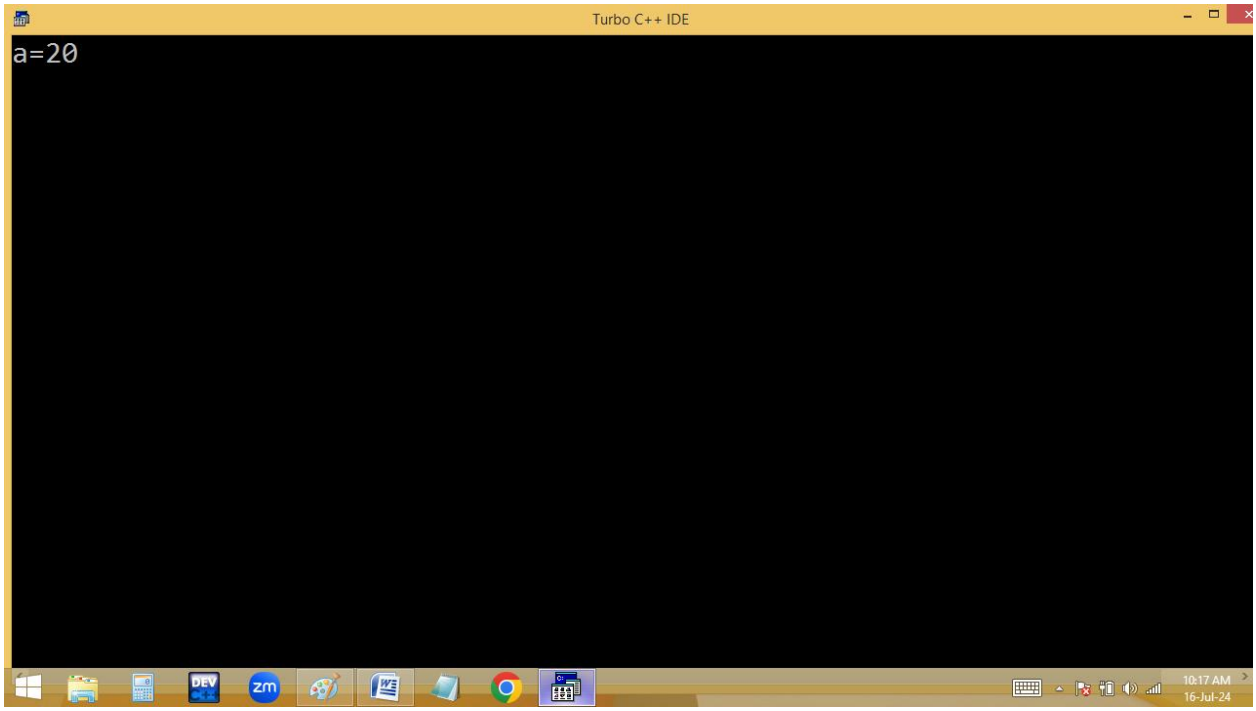
++a=11 printed

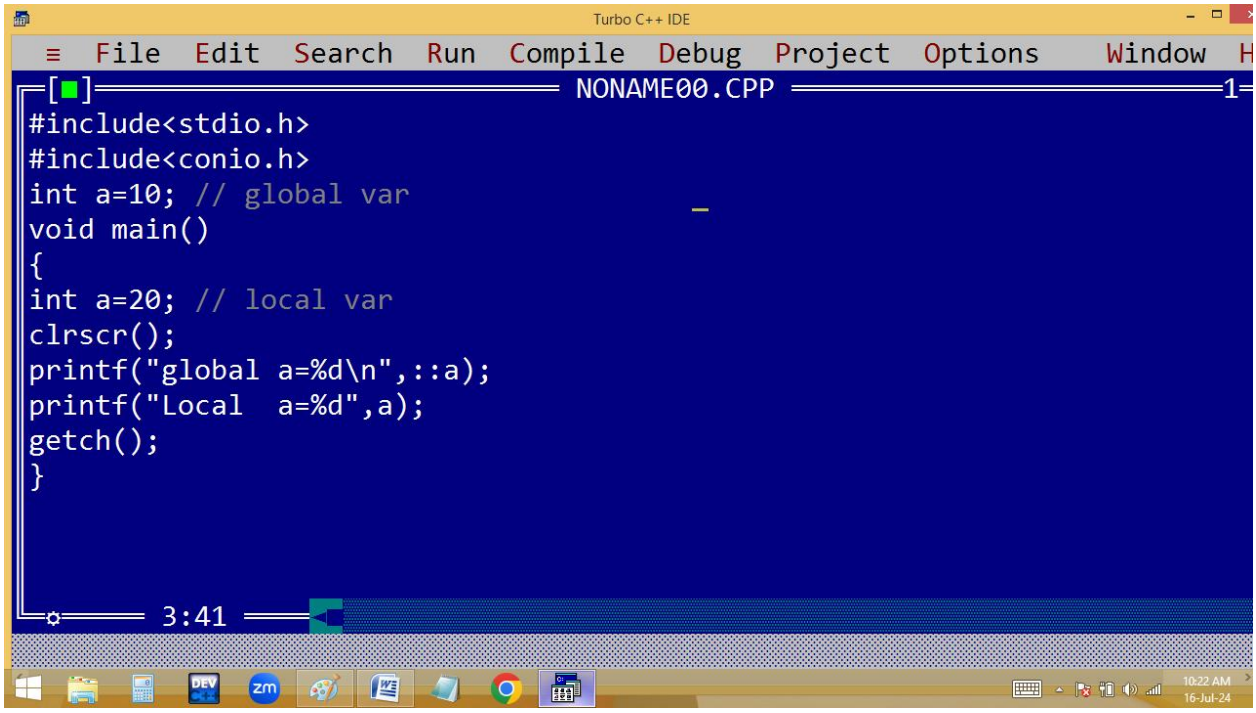
++a=12 printed

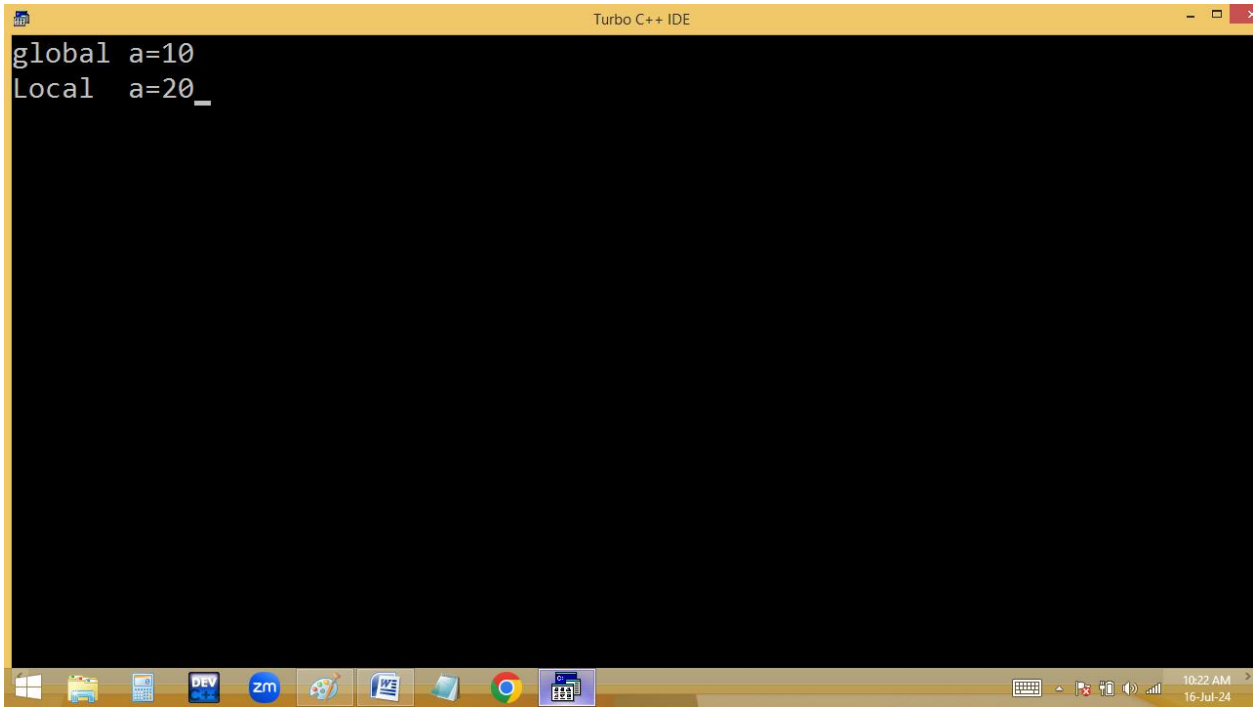
++a=13 printed

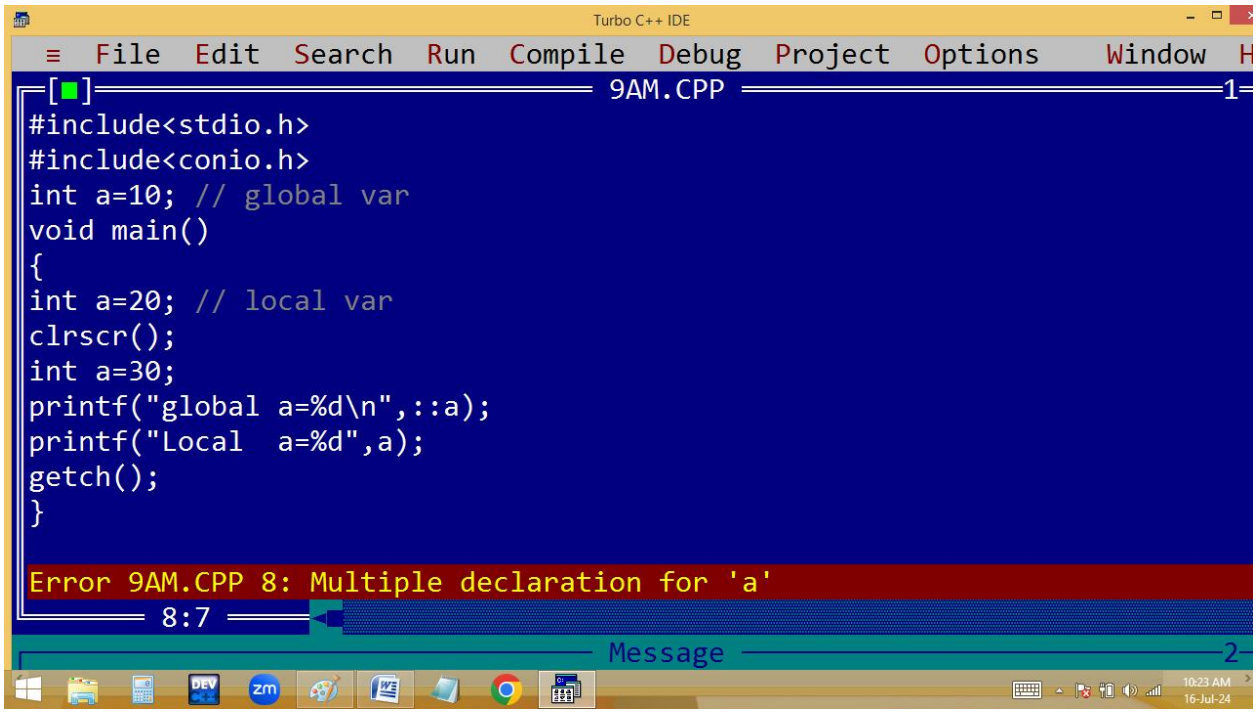
a deleted

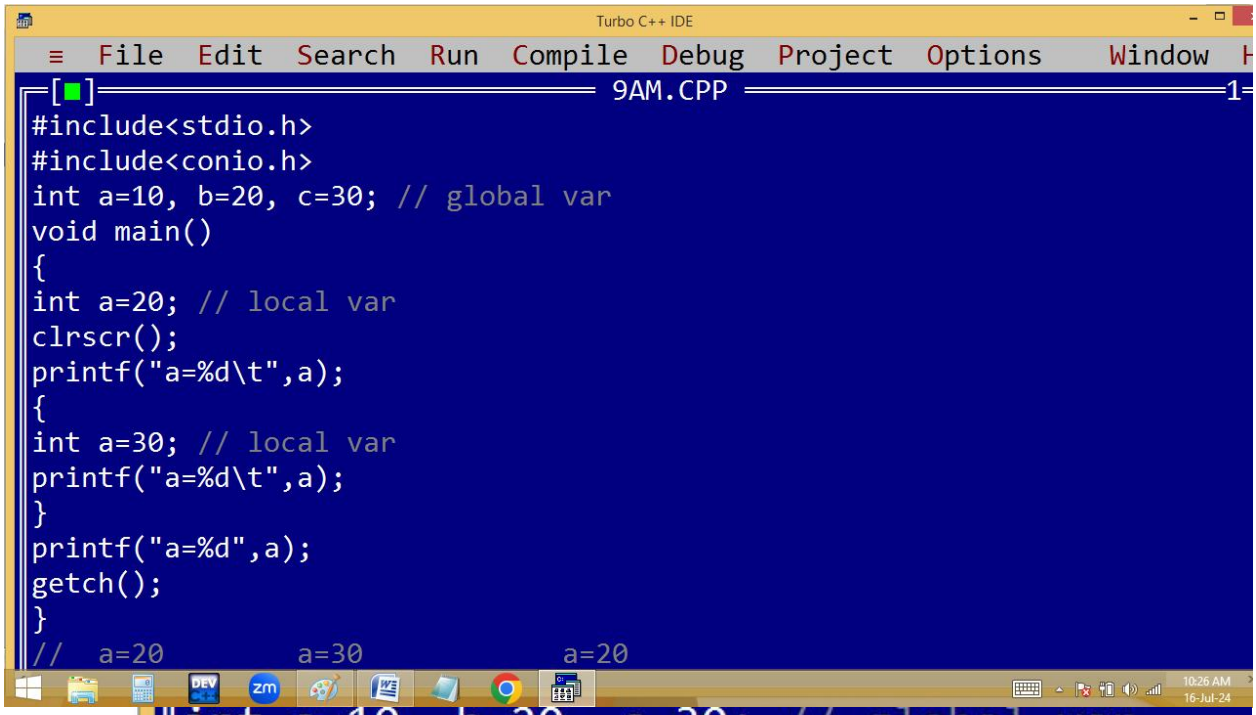

Turbo C++ IDE
File Edit Search Run Compile Debug Project Options Window H
NONAME00.CPP
#include<stdio.h>
#include<conio.h>
int a=10; // global var
void main()
{
int a=20; // local var
clrscr();
printf("a=%d",a);
getch();
}
// when local and global var's with same name, always priority goes to
// local variable
12:4


Turbo C++ IDE
a=20

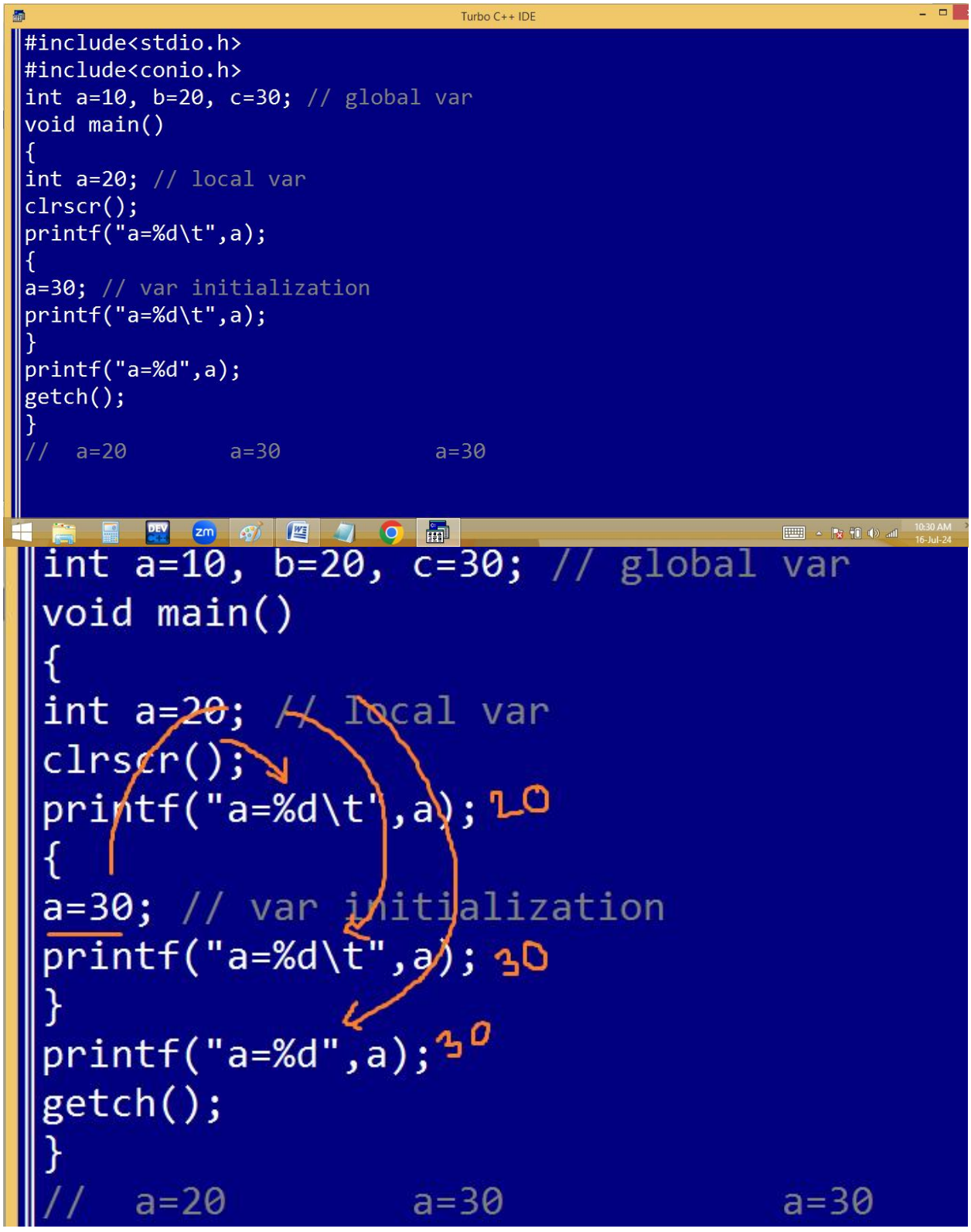

Turbo C++ IDE
File Edit Search Run Compile Debug Project Options Window H
NONAME00.CPP
#include<stdio.h>
#include<conio.h>
int a=10; // global var
void main()
{
int a=20; // local var
clrscr();
printf("global a=%d\n",::a);
printf("Local a=%d",a);
getch();
}
3:41

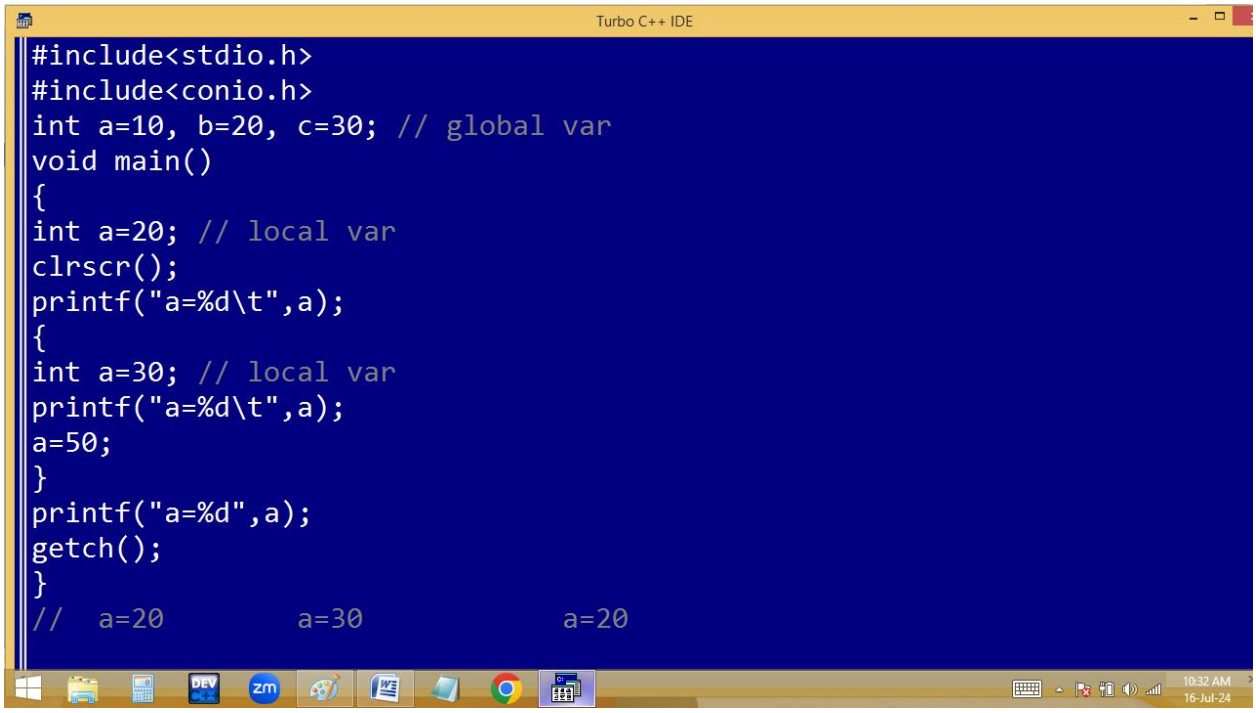

Turbo C++ IDE
global a=10
Local a=20

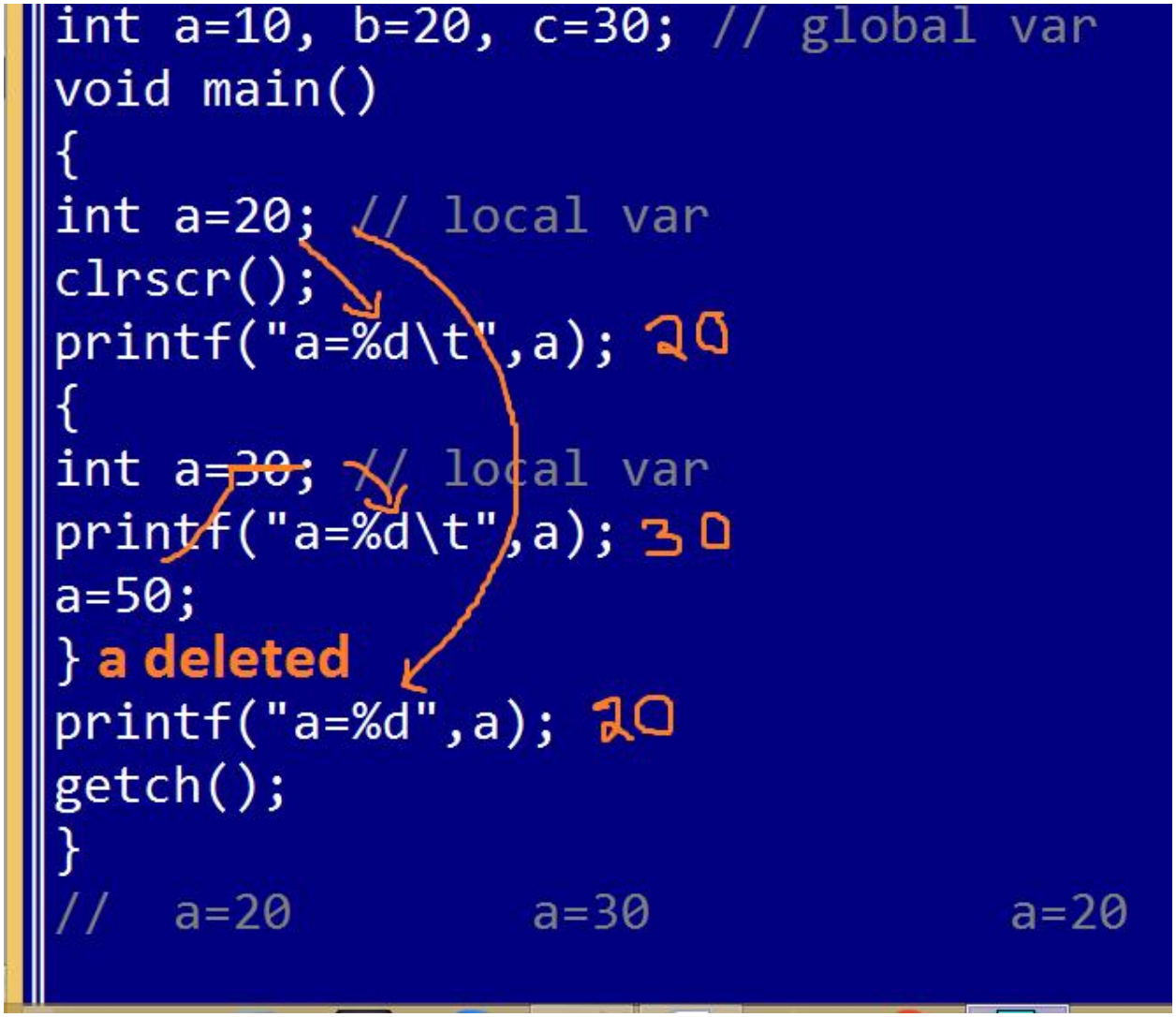

Turbo C++ IDE
File Edit Search Run Compile Debug Project Options Window H
9AM.CPP
#include<stdio.h>
#include<conio.h>
int a=10; // global var
void main()
{
int a=20; // local var
clrscr();
int a=30;
printf("global a=%d\n",::a);
printf("Local a=%d",a);
getch();
}
Error 9AM.CPP 8: Multiple declaration for 'a'
8:7
Message

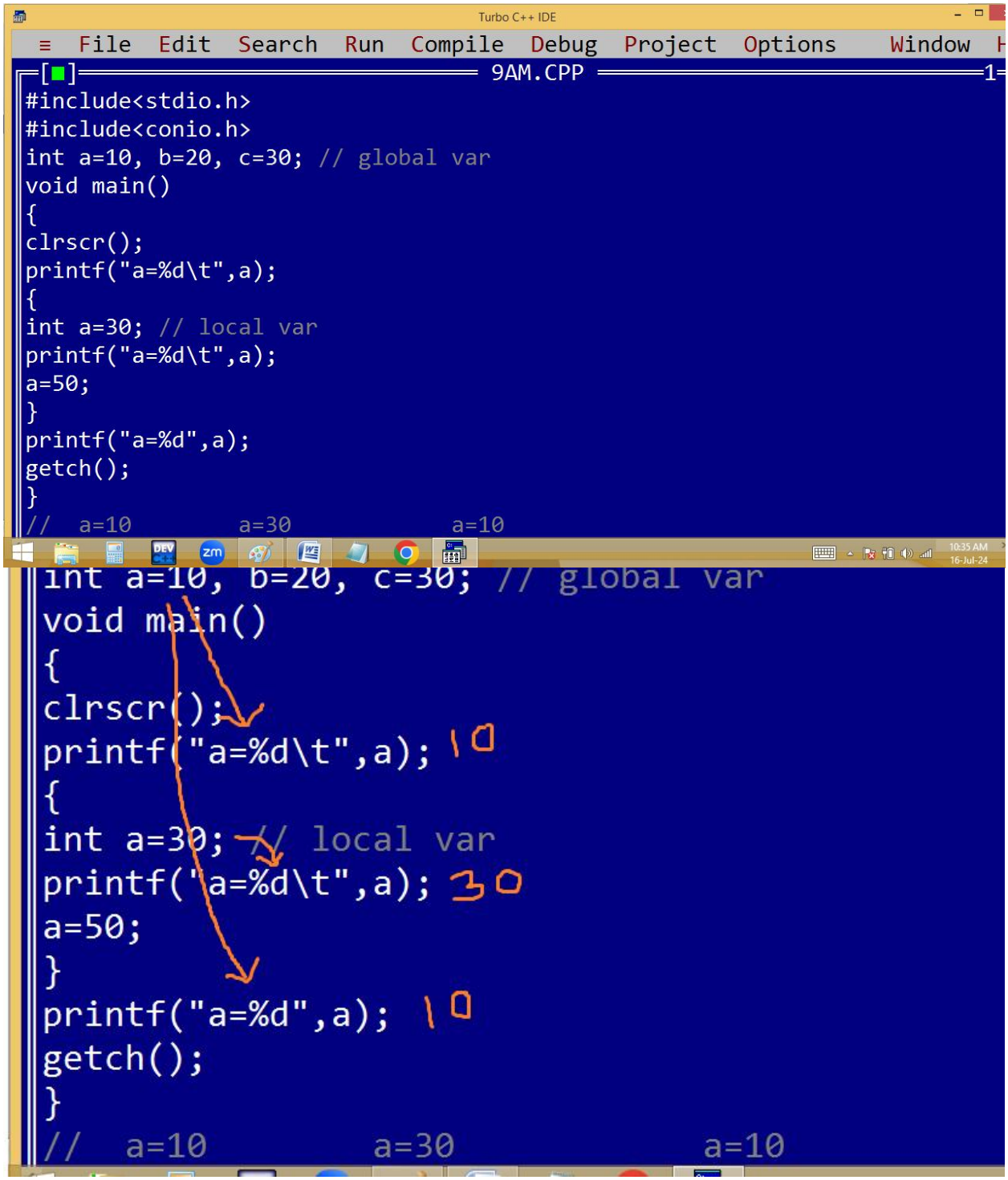


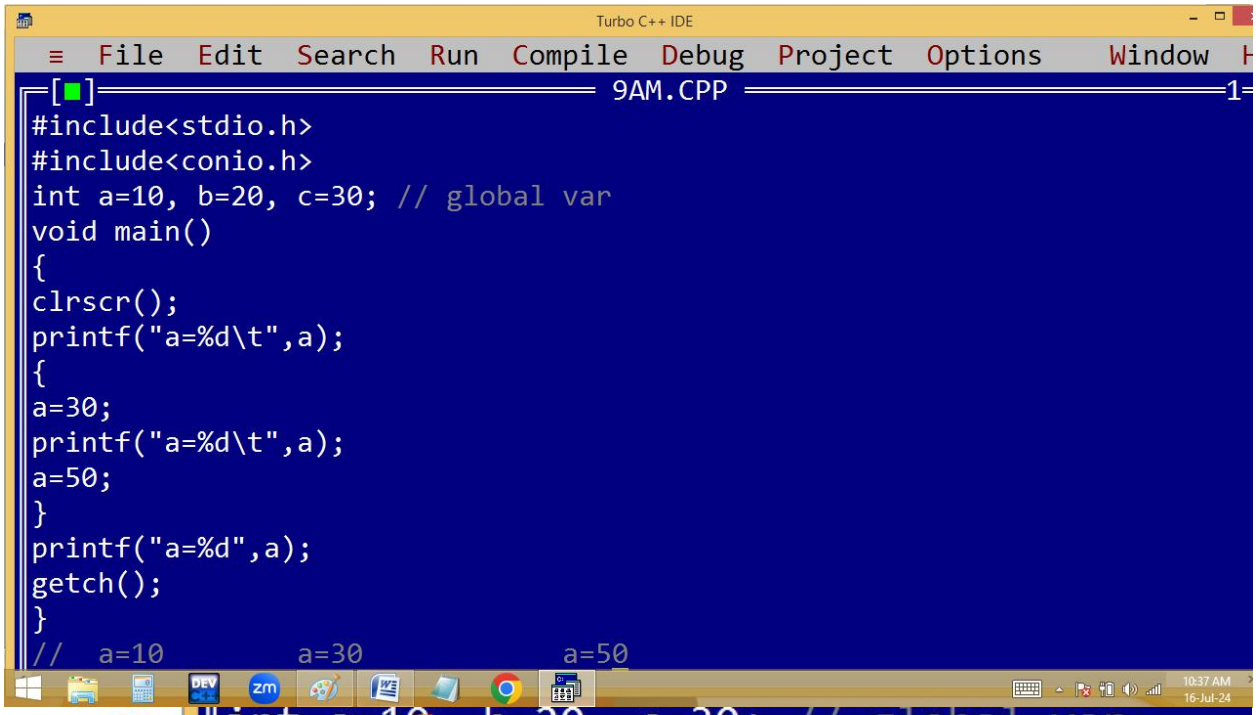

```
int a=10, b=20, c=30; // global var
void main()
{
int a=20; // local var
clrscr();
printf("a=%d\t",a);
{
int a=30; // local var
printf("a=%d\t",a);
} /* a deleted*/
printf("a=%d",a);
getch();
}
// a=20 a=30 a=20
```

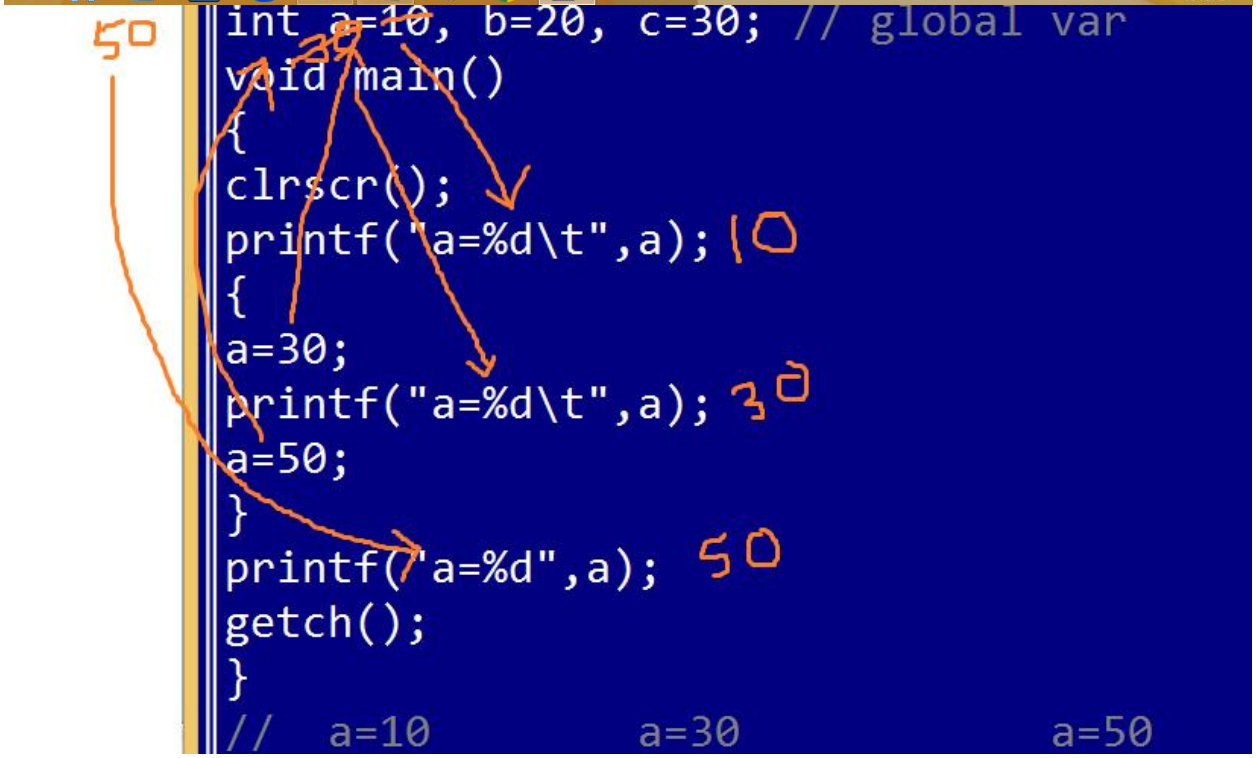

Turbo C++ IDE
#include<stdio.h>
#include<conio.h>
int a=10, b=20, c=30; // global var
void main()
{
int a=20; // local var
clrscr();
printf("a=%d\t",a);
{
a=30; // var initialization
printf("a=%d\t",a);
}
printf("a=%d",a);
getch();
}
// a=20 a=30 a=30
int a=10, b=20, c=30; // global var
void main()
{
int a=20; // local var
clrscr();
printf("a=%d\t",a);
20
{
a=30; // var initialization
printf("a=%d\t",a);
30
}
printf("a=%d",a);
30
getch();
}
// a=20 a=30 a=30

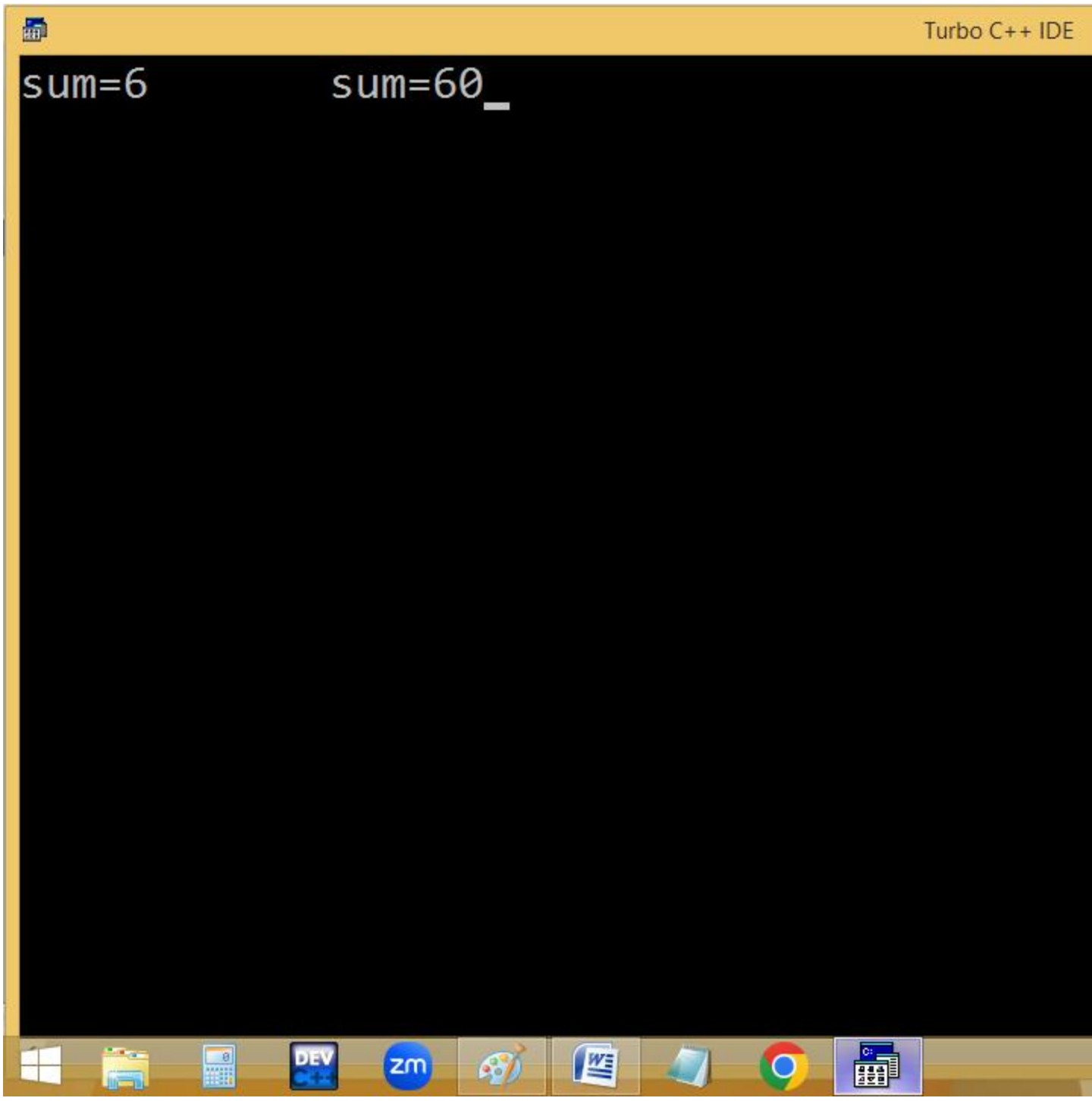

Turbo C++ IDE
#include<stdio.h>
#include<conio.h>
int a=10, b=20, c=30; // global var
void main()
{
int a=20; // local var
clrscr();
printf("a=%d\t",a);
{
int a=30; // local var
printf("a=%d\t",a);
a=50;
}
printf("a=%d",a);
getch();
}
// a=20 a=30 a=20

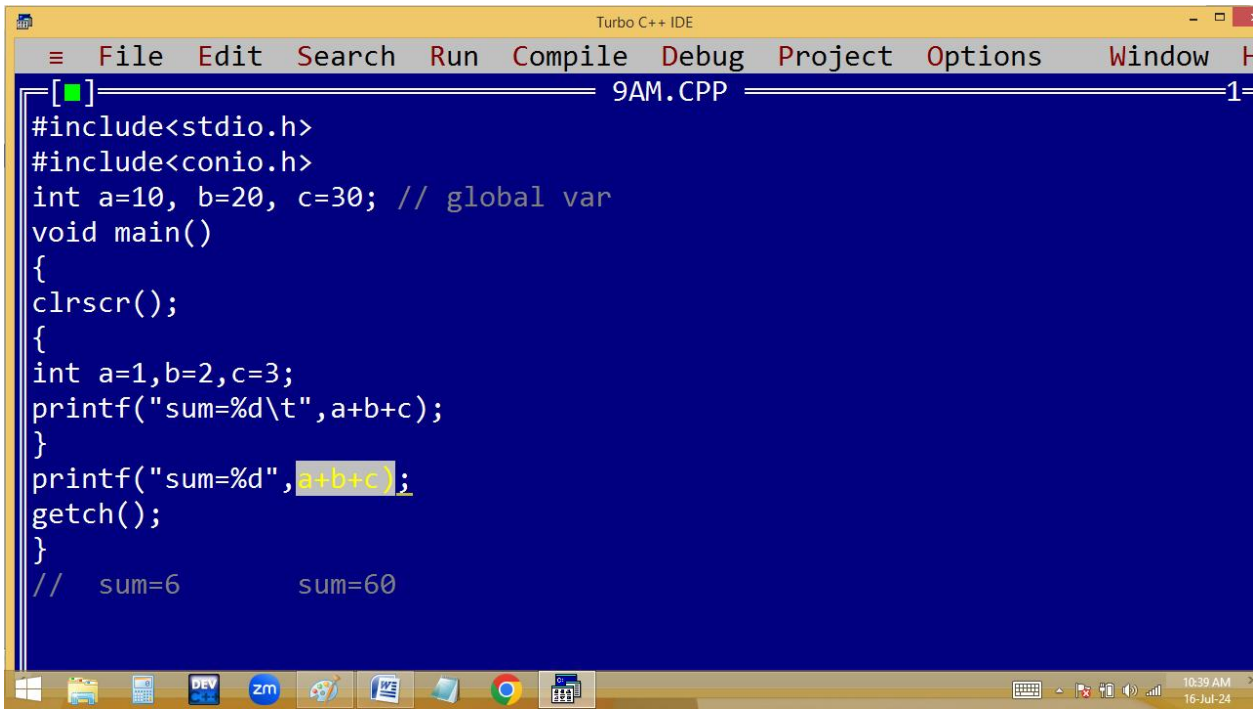

int a=10, b=20, c=30; // global var
void main()
{
int a=20; // local var
clrscr();
printf("a=%d\t",a); 20
{
int a=30; // local var
printf("a=%d\t",a); 30
a=50;
} a deleted
printf("a=%d",a); 20
getch();
}
// a=20 a=30 a=20

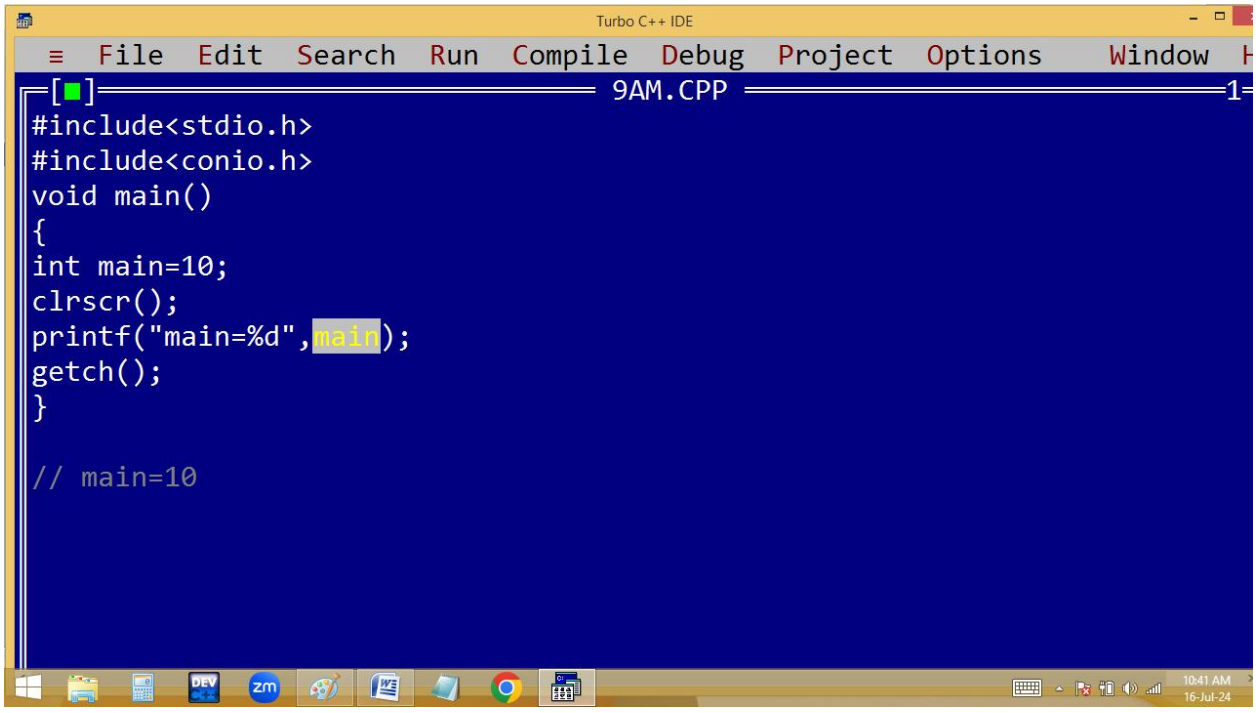

Turbo C++ IDE
File Edit Search Run Compile Debug Project Options Window
9AM.CPP
#include<stdio.h>
#include<conio.h>
int a=10, b=20, c=30; // global var
void main()
{
clrscr();
printf("a=%d\t",a);
{
int a=30; // local var
printf("a=%d\t",a);
a=50;
}
printf("a=%d",a);
getch();
}
// a=10 a=30 a=10
int a=10, b=20, c=30; // global var
void main()
{
clrscr();
printf("a=%d\t",a); 10
{
int a=30; // local var
printf("a=%d\t",a); 30
a=50;
}
printf("a=%d",a); 10
getch();
}
// a=10 a=30 a=10


Turbo C++ IDE
File Edit Search Run Compile Debug Project Options Window
9AM.CPP
#include<stdio.h>
#include<conio.h>
int a=10, b=20, c=30; // global var
void main()
{
clrscr();
printf("a=%d\t",a);
{
a=30;
printf("a=%d\t",a);
a=50;
}
printf("a=%d",a);
getch();
}
// a=10 a=30 a=50


int a=10, b=20, c=30; // global var
void main()
{
clrscr();
printf("a=%d\t",a);
{
a=30;
printf("a=%d\t",a);
a=50;
}
printf("a=%d",a);
getch();
}
// a=10 a=30 a=50


Turbo C++ IDE
sum=6 sum=60


Turbo C++ IDE
File Edit Search Run Compile Debug Project Options Window
9AM.CPP
#include<stdio.h>
#include<conio.h>
int a=10, b=20, c=30; // global var
void main()
{
clrscr();
{
int a=1,b=2,c=3;
printf("sum=%d\t",a+b+c);
}
printf("sum=%d",a+b+c);
getch();
}
// sum=6 sum=60


Turbo C++ IDE
File Edit Search Run Compile Debug Project Options Window
9AM.CPP
#include<stdio.h>
#include<conio.h>
void main()
{
int main=10;
clrscr();
printf("main=%d",main);
getch();
}
// main=10