Prog-7

Write a program to implement stack using linked list?

```
#include <stdio.h>
#include <conio.h>
#include <stdlib.h>
struct stack
{
int data;
struct stack *next;
};
*top = NULL, *temp;
int main()
{
int c;
clrscr();
while(1)
{
printf("\n\n main menu");
printf("\n\n 1. Push");
printf("\n\n 2. Pop");
printf("\n\n 3. Display");
printf("\n\n 4. exit");
printf("\n\n Enter the choice");
scanf("\n\n%d", &c);
switch(c)
```

```
{ case 1 : push();
           break;
  case 2 : pop();
           break;
  case 3 : display();
           break;
  case 4 : exit(1)
           break;
  default : Printf("wrong");

}
}
}
Push()
{
   struct stack *temp;
   int item;
temp( struct stack *) malloc(sizeof(struct
                    stack));
Printf( "In insert element on to the
                    stack");

   scanf("%d", &item);
temp -> data = item;
temp -> next = top
top = temp;
```

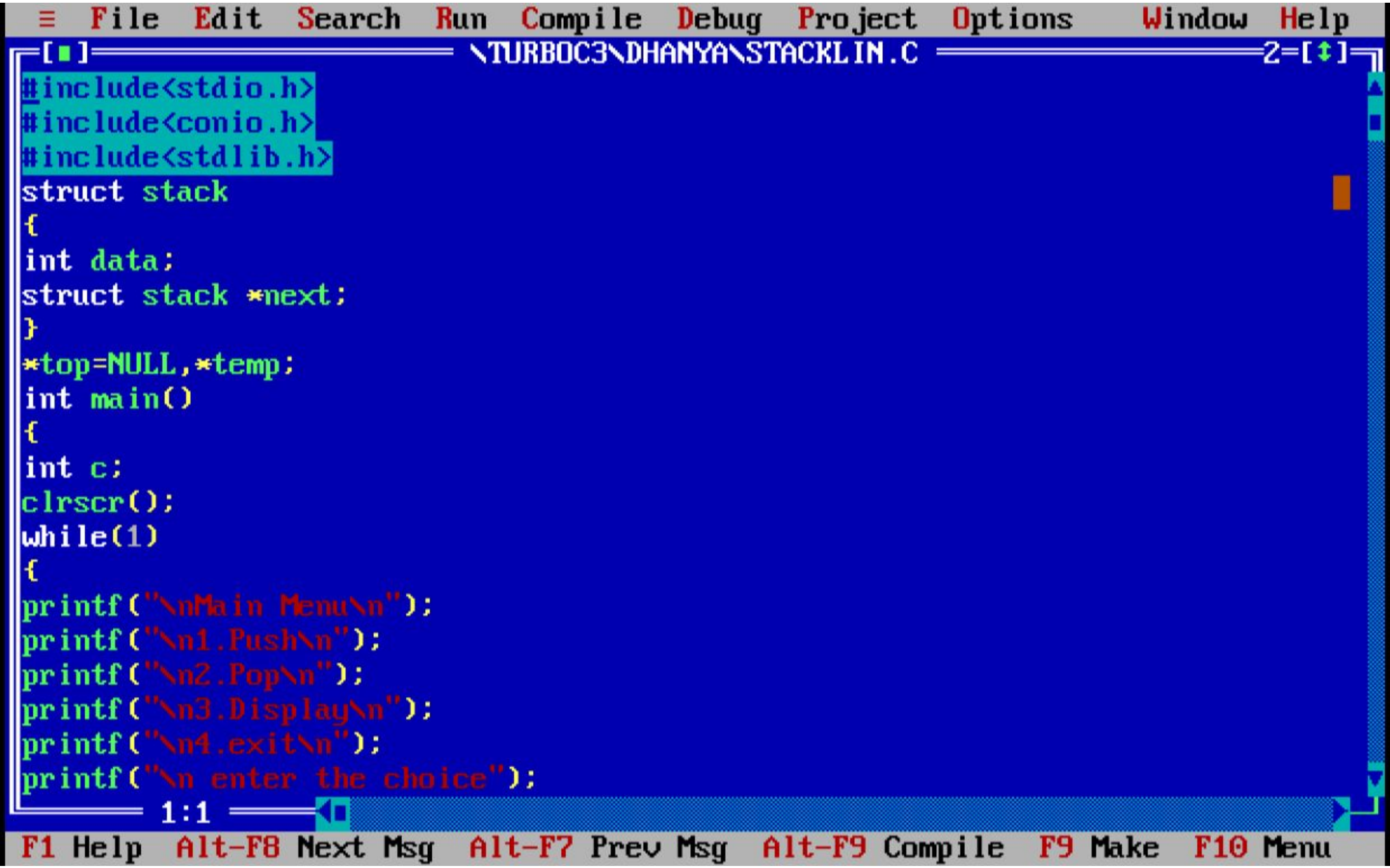
```
return;
}
POP()
{ struct stack *ptr;
 if (TOP == NULL)
printf("stack is empty");
 else
 { temp = top;
Printf("\n POPPed item is %d \n:", temp->data);
top = top->next;
free(temp);
 }
 return;
 }
display()
{ struct stack *ptr;
 ptr = top;
 if (TOP == NULL)
 { printf("stack is empty");
}
else
{ printf("\n stack elements are: \n");
while (ptr != NULL);
 { printf("%d \n", ptr->data);
 ptr = ptr->next; }}
 return;
 }
```

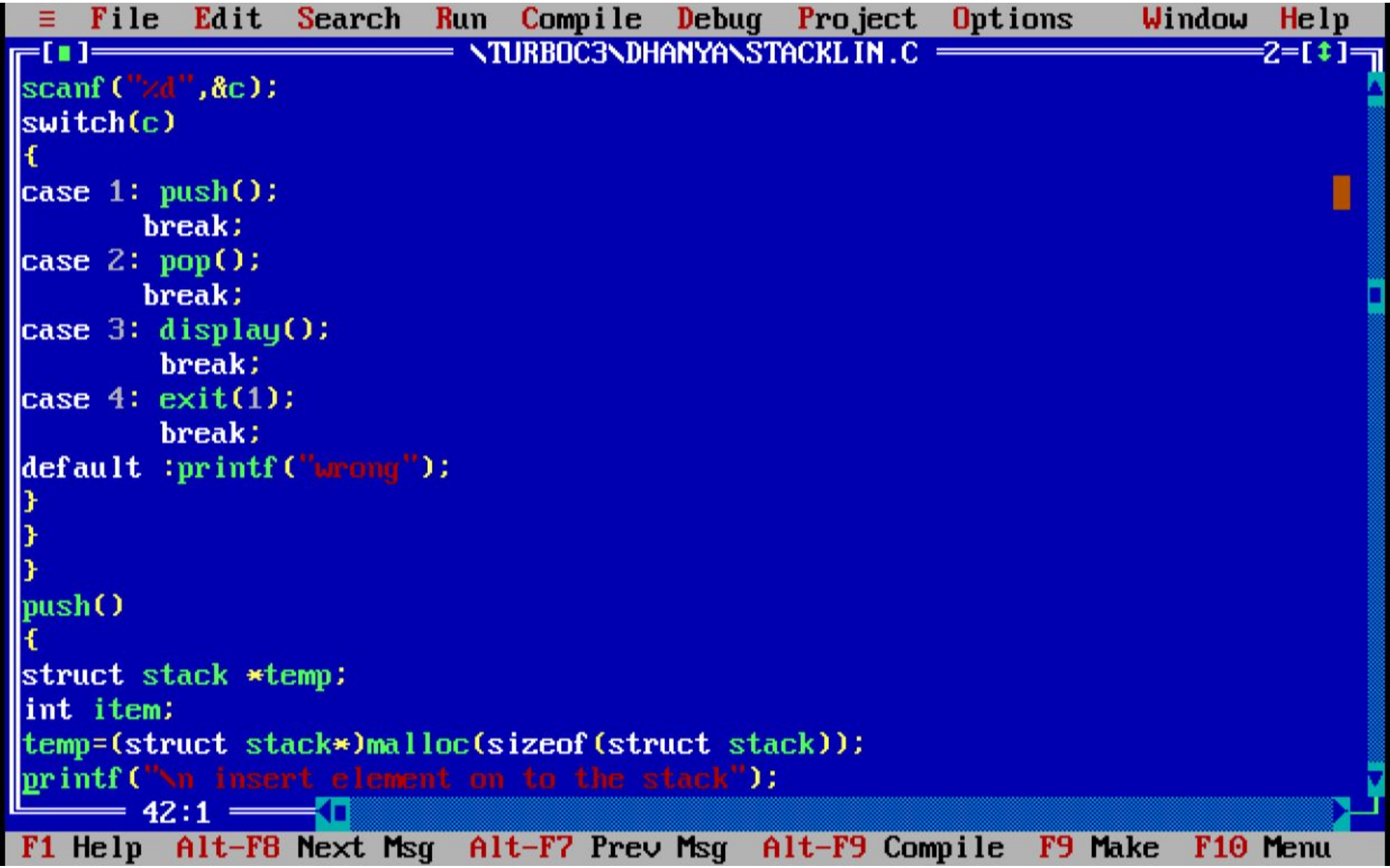
OUTPUT

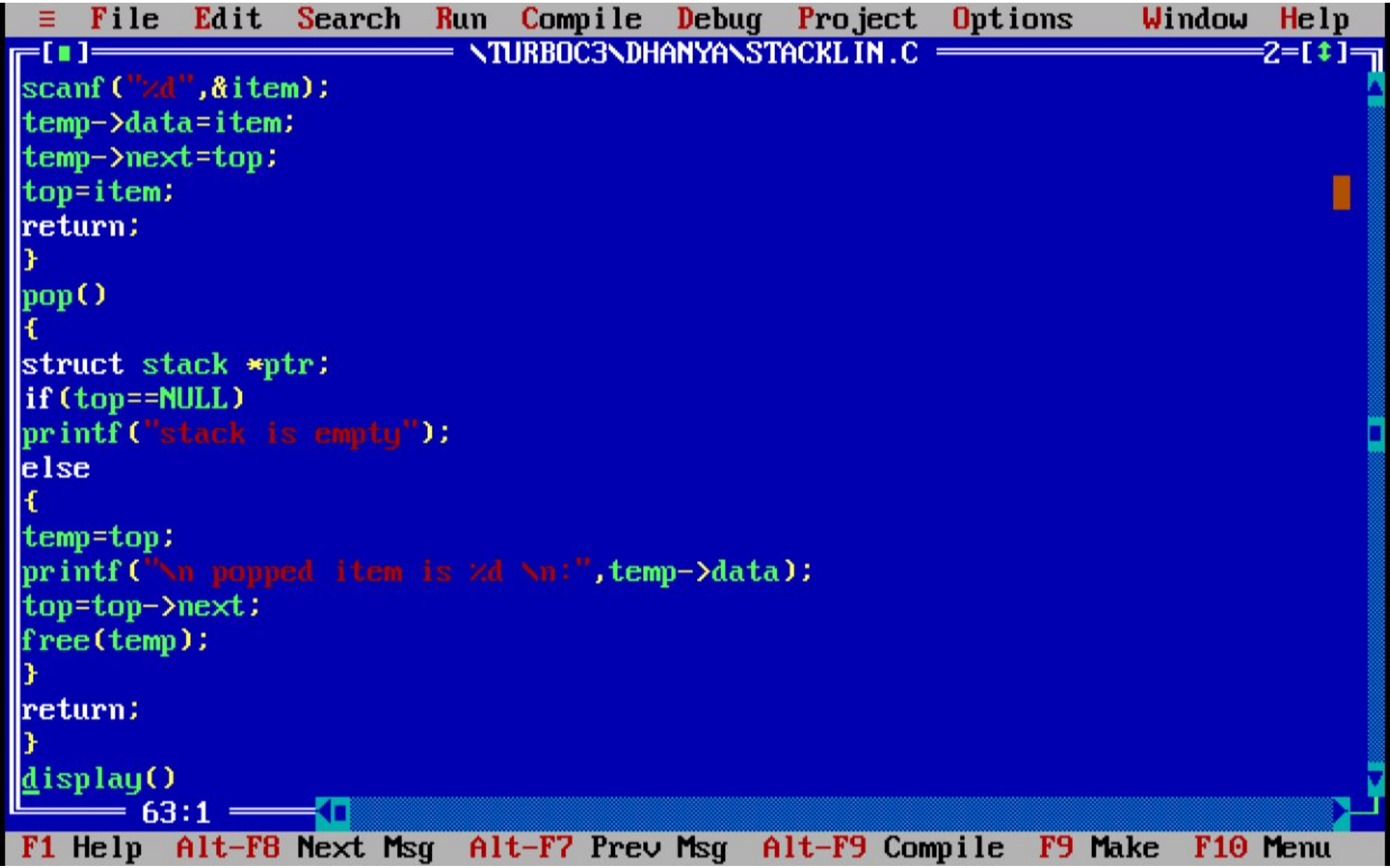
```
Main menu
1. Push
2. POP
3. display
4. Exit
Enter choice: 1
insert element on to the stack
3
Main menu
1. Push
2. POP
3. display
4. exit
Enter choice : 3
Stack elements are :
3
Main menu
1. Push
2. pop
3. display
4. exit
```

Enter your choice: 2

Popped item is 3


File Edit Search Run Compile Debug Project Options Window Help
\TURBOC3\DHANYA\STACKLIN.C
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
struct stack
{
int data;
struct stack *next;
}
*top=NULL,*temp;
int main()
{
int c;
clrscr();
while(1)
{
printf("\nMain Menu\n");
printf("\n1.Push\n");
printf("\n2.Pop\n");
printf("\n3.Display\n");
printf("\n4.exit\n");
printf("\n enter the choice");
1:1
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make F10 Menu


File Edit Search Run Compile Debug Project Options Window Help
\TURBOC3\DHANYA\STACKLIN.C
scanf("%d",&c);
switch(c)
{
case 1: push();
break;
case 2: pop();
break;
case 3: display();
break;
case 4: exit(1);
break;
default :printf("wrong");
}
}
}
push()
{
struct stack *temp;
int item;
temp=(struct stack*)malloc(sizeof(struct stack));
printf("\n insert element on to the stack");
42:1
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make F10 Menu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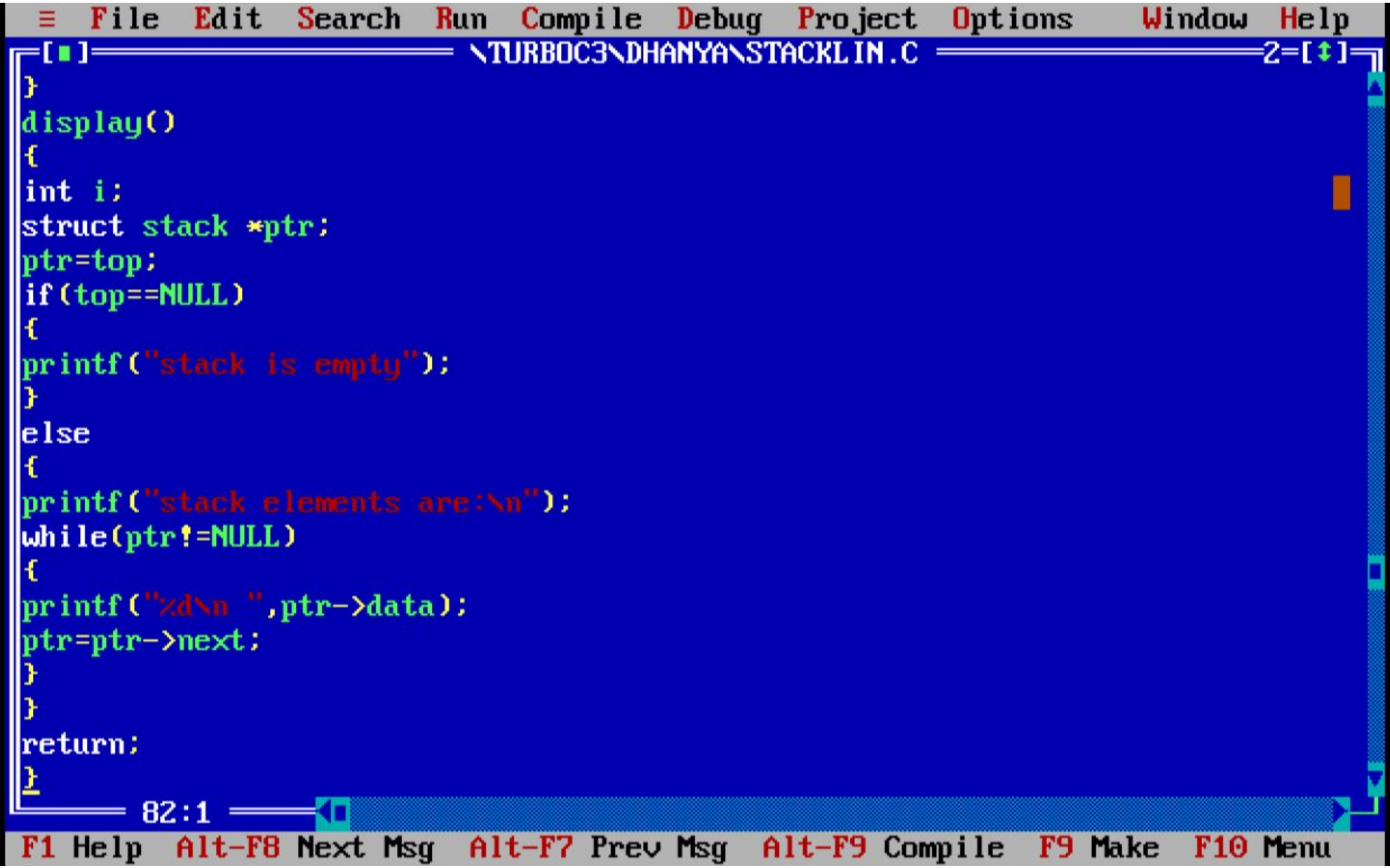
\TURBOC3\DHANYA\STACKLIN.C
scanf("%d",&item);
temp->data=item;
temp->next=top;
top=item;
return;
}
pop()
{
struct stack *ptr;
if(top==NULL)
printf("stack is empty");
else
{
temp=top;
printf("\n popped item is %d \n:",temp->data);
top=top->next;
free(temp);
}
return;
}
display()
63:1
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make F10 Menu


File Edit Search Run Compile Debug Project Options Window Help
\TURBOC3\DHANYA\STACKLIN.C
}
display()
{
int i;
struct stack *ptr;
ptr=top;
if(top==NULL)
{
printf("stack is empty");
}
else
{
printf("stack elements are:\n");
while(ptr!=NULL)
{
printf("%d\n ",ptr->data);
ptr=ptr->next;
}
}
return;
}
82:1
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make F10 Menu