

Hotel billing program:

```
#include<stdio.h>

#include<conio.h>

void main()

{

float qty, rate, amt=0;

int op;

abc:

clrscr();

puts("*****
*****");

puts("\t\t\t HOTEL SAI BALAJI");

puts("\t\t\t AMEERPET - HYD");

puts("*****
*****");

puts("\t\t\t 1. Tea - 10/-");

puts("\t\t\t 2. Coffee/Boost/Horlicks/Milk/Water Bottle - 20/-");

puts("\t\t\t 3. Idly / Bonda / Upma / Poha / Plain dosa - 30/-");
```

```

puts("\t\t\t 4. Poori / Onion / Masala / Ghee Dosa - 40/-");
puts("\t\t\t 5. veg biryani - 50/-");
puts("\t\t\t 6. Cancel");
puts("\t\t\t 7. Bill");
puts("\t\t\t 8. Close");

puts("*****
*****");

printf("\t\t\tEnter Ur option [ ]\b\b");scanf("%d",&op);
if(op==6){amt=0; printf("Ur Order is cancelled");}
else if(op==8)return;
else if(op==7){printf("Bill amount=%.2f", amt); amt=0; }
else if(op<1 || op>8)puts("Wrong order");
else
{
printf("Enter Quantity "); scanf("%f",&qty);
}
switch(op)
{
case 1: amt+=qty*10;break;

```

```
case 2: amt+=qty*20;break;
```

```
case 3: amt+=qty*30;break;
```

```
case 4: amt+=qty*40;break;
```

```
case 5: amt+=qty*50;break;
```

```
}
```

```
getch();
```

```
goto abc;
```

```
}
```

```
TC
AMEERPET - HYD
*****
1. Tea - 10/-
2. Coffee/Boost/Horlicks/Milk/Water Bottle - 20/-
3. Idly / Bonda / Upma / Poha / Plain dosa - 30/-
4. Poori / Onion / Masala / Ghee Dosa - 40/-
5. veg biryani - 50/-
6. Cancel
7. Bill
8. Close
*****
Enter Ur option [3]
Enter Quantity 2
_
Activate Windows
Go to PC settings to activate Windows.
```

```
TC
AMEERPET - HYD
*****
1. Tea - 10/-
2. Coffee/Boost/Horlicks/Milk/Water Bottle - 20/-
3. Idly / Bonda / Upma / Poha / Plain dosa - 30/-
4. Poori / Onion / Masala / Ghee Dosa - 40/-
5. veg biryani - 50/-
6. Cancel
7. Bill
8. Close
*****
Enter Ur option [5]
Enter Quantity 1
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```

```
TC
AMEERPET - HYD
*****
1. Tea - 10/-
2. Coffee/Boost/Horlicks/Milk/Water Bottle - 20/-
3. Idly / Bonda / Upma / Poha / Plain dosa - 30/-
4. Poori / Onion / Masala / Ghee Dosa - 40/-
5. veg biryani - 50/-
6. Cancel
7. Bill
8. Close
*****
Enter Ur option [7]
Bill amount=110.00

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2:30 PM
09-Sep-23
```

LOOPS / ITERATIONS / REPETITIVE STATEMENTS

Loops are used to repeat a block/group of statements continuously until the given condition becomes false.

Loops reduce program size and improves performance.

In loops beginning and ending points are same.

C-Language supports basically 2 types of loops.

- 1. Entry/pre controlled loops.**
- 2. Exit/post controlled loops.**

In entry control loops, condition is tested first and it is true then only statements block is executed.

Under entry control loops we are having

- i. While loop**
- ii. For loop**

In exit control loop, the statements are executed first and later condition is tested.

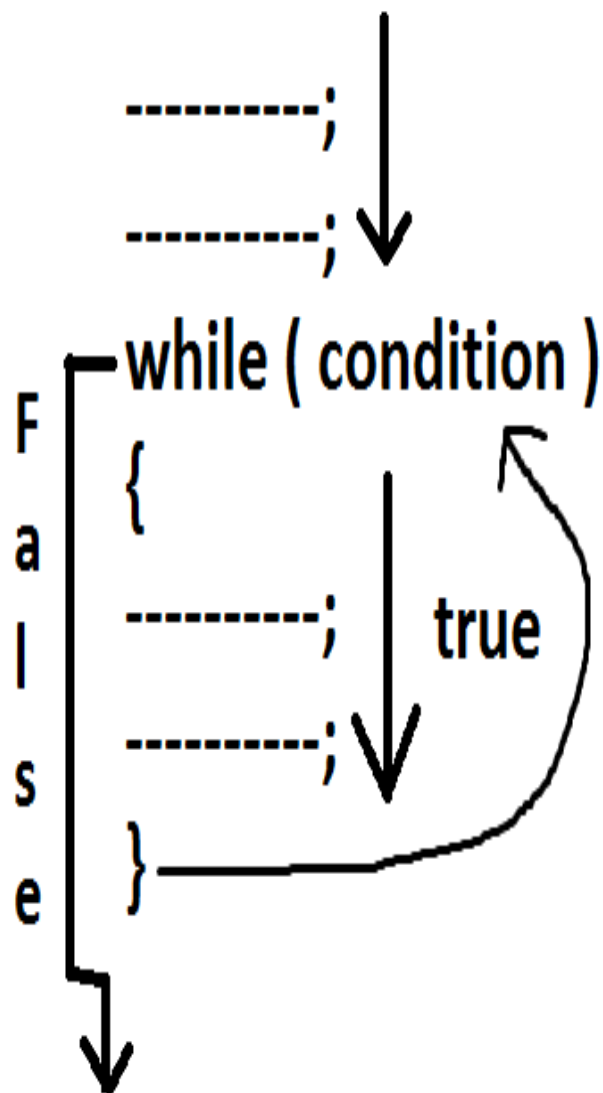
Under exit control loop we are having

- i. do while.**

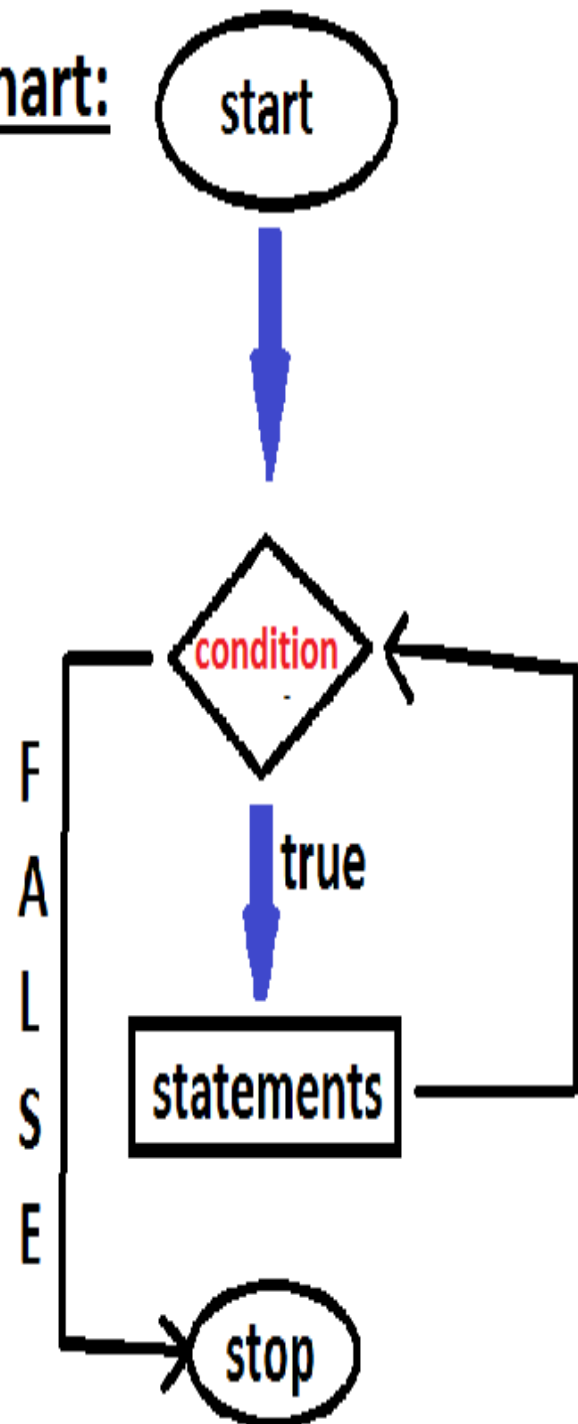
While loop:

- **while is a keyword.**
- **In while loop condition is tested first and it is true then only while block statements are executed. After executing while block statements, the program execution automatically shifted/jumped to while condition at the beginning. If it is true then once again the while block statements are repeated. Like this the process is continued until while condition becomes false.**
- **While is entry control loop.**

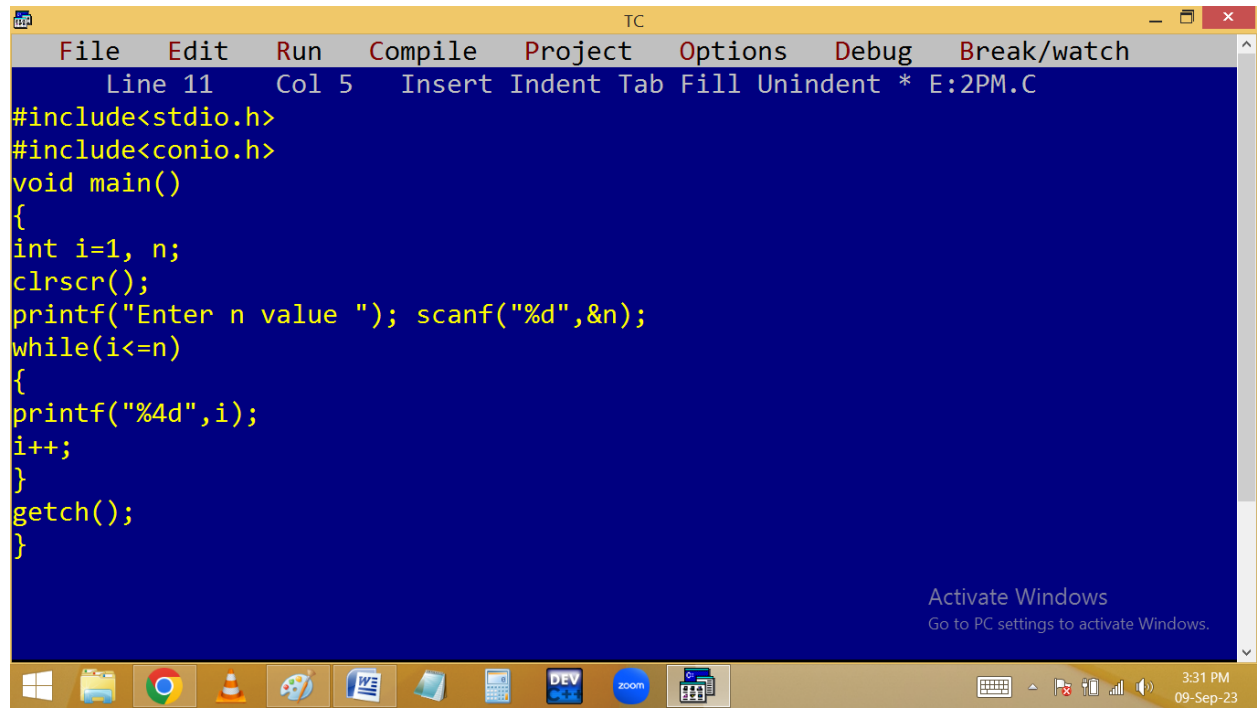
Syntax:



Flow chart:



Write a program to print 1..n natural numbers:



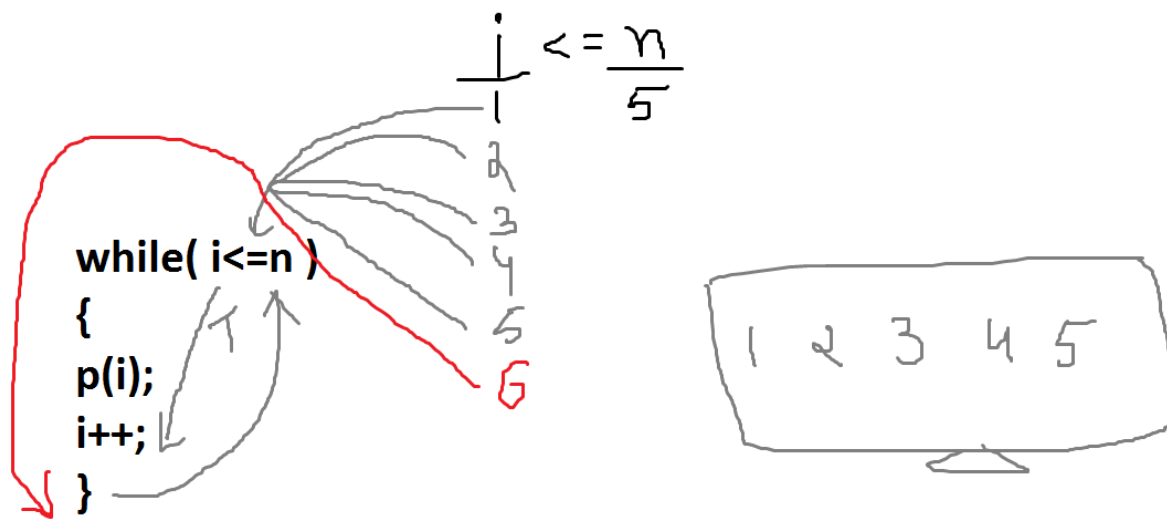
The image shows a screenshot of the Turbo C++ (TC) IDE. The window title is "TC". The menu bar includes File, Edit, Run, Compile, Project, Options, Debug, and Break/watch. The status bar at the top indicates "Line 11 Col 5 Insert Indent Tab Fill Unindent * E:2PM.C". The main editing area has a blue background and contains the following C code:

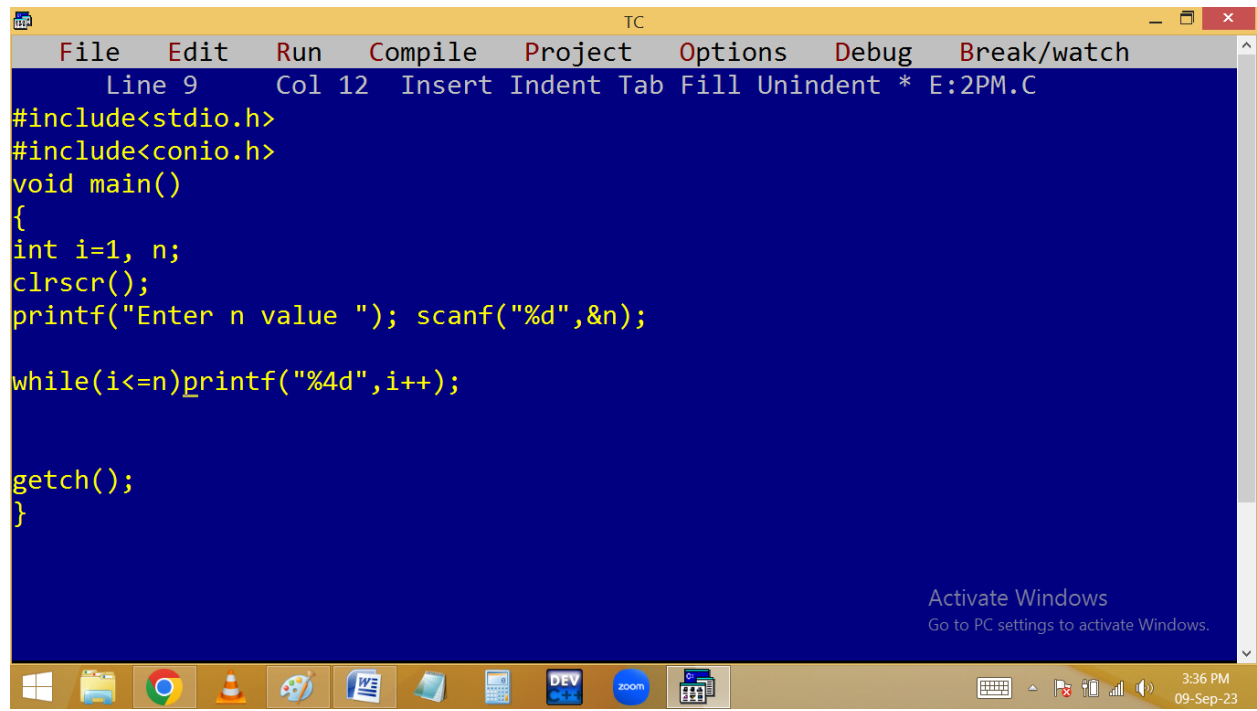
```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i=1, n;
    clrscr();
    printf("Enter n value "); scanf("%d",&n);
    while(i<=n)
    {
        printf("%4d",i);
        i++;
    }
    getch();
}
```

An "Activate Windows" watermark is visible in the bottom right corner of the IDE window, with the text "Go to PC settings to activate Windows." Below the code editor, the Windows taskbar is visible, showing icons for the Start menu, File Explorer, Google Chrome, VLC media player, Paint, Word, a folder, a calculator, DEV C++, Zoom, and a task view icon. The system tray on the right shows the time as 3:31 PM and the date as 09-Sep-23.

```
TC
Enter n value 100
1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60
61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

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```





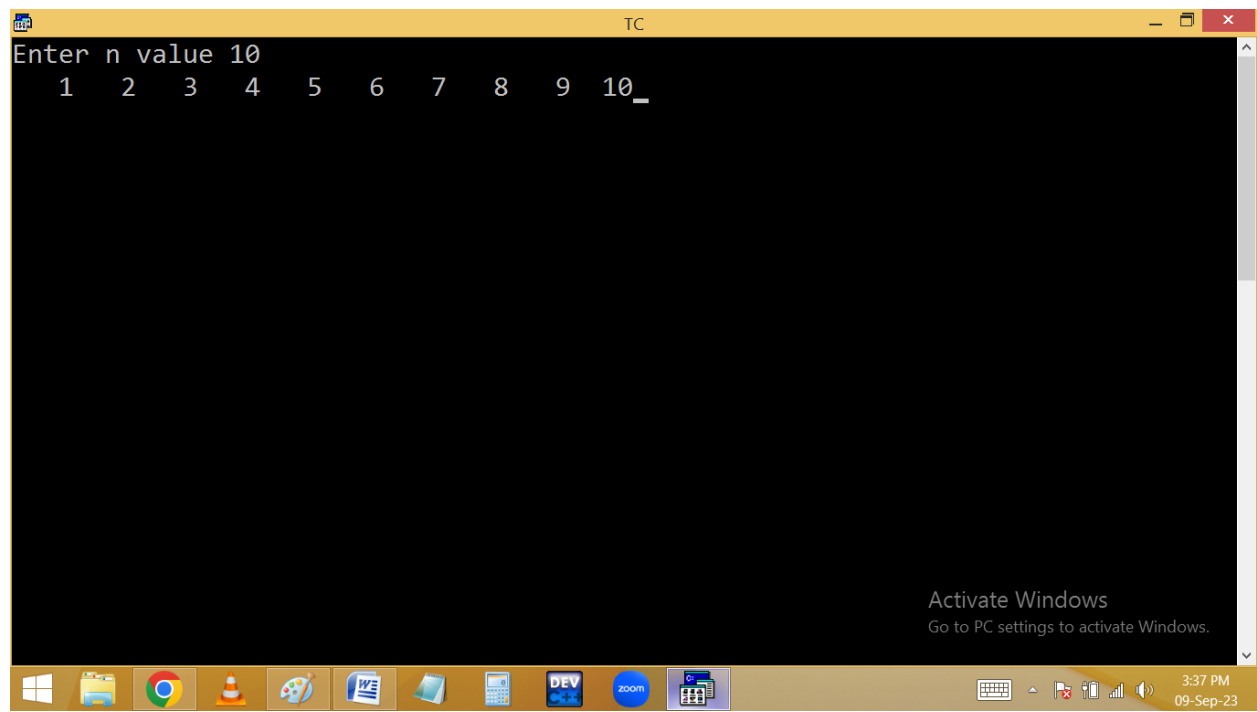
```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 9 Col 12 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int i=1, n;
clrscr();
printf("Enter n value "); scanf("%d",&n);

while(i<=n)printf("%4d",i++);

getch();
}
```

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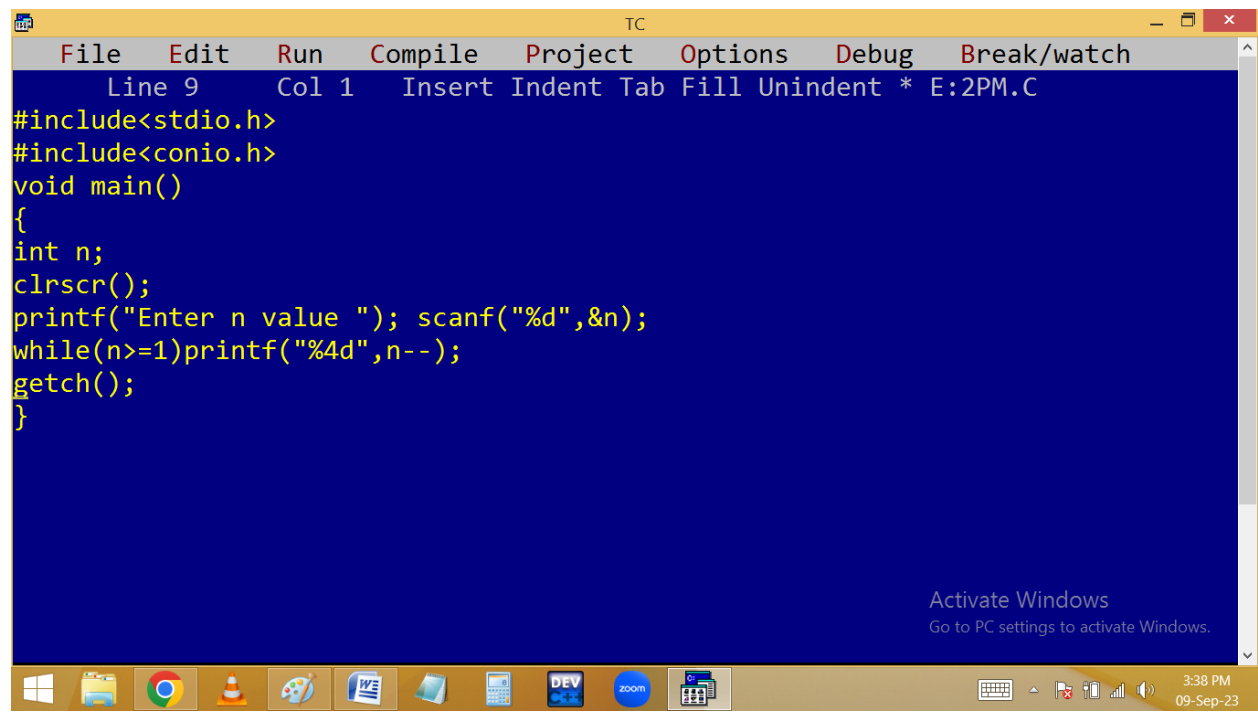


```
TC
Enter n value 10
1 2 3 4 5 6 7 8 9 10_
```

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Printing 1..n in reverse order:



TC

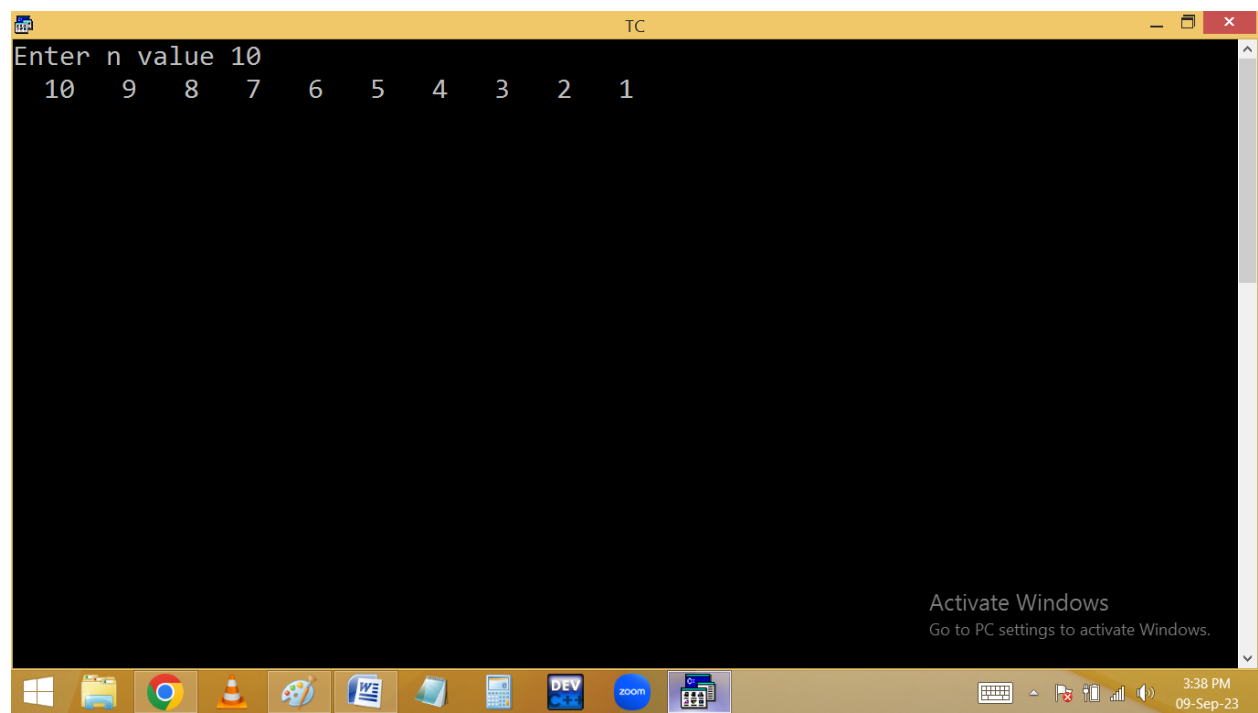
File Edit Run Compile Project Options Debug Break/watch

Line 9 Col 1 Insert Indent Tab Fill Unindent * E:2PM.C

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int n;
    clrscr();
    printf("Enter n value "); scanf("%d",&n);
    while(n>=1)printf("%4d",n--);
    getch();
}
```

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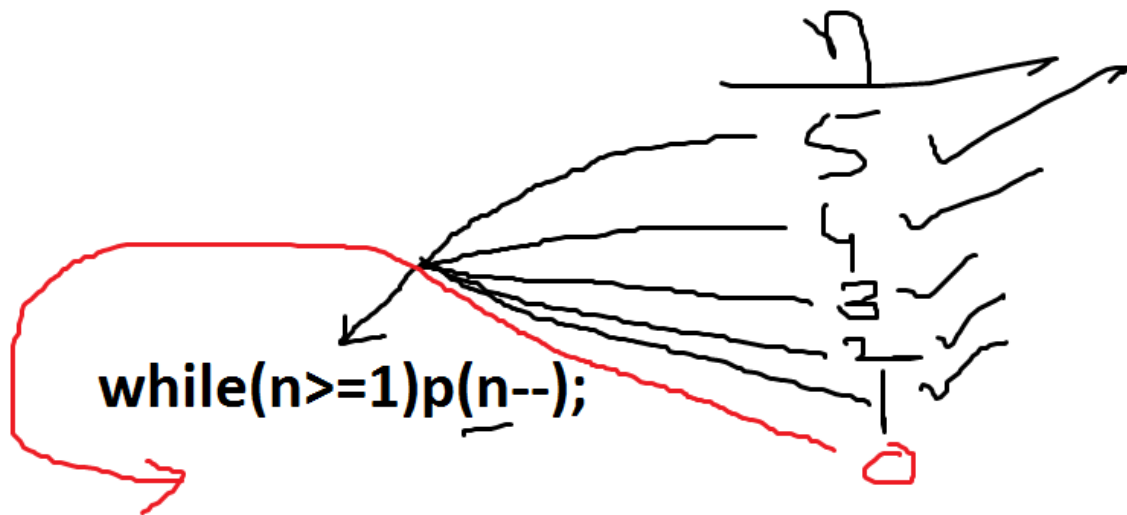
TC

Enter n value 10

10 9 8 7 6 5 4 3 2 1

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Find 1..n numbers sum and mean [avg]:

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 13 Col 69 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int i=1,n,s=0;
clrscr();
printf("Enter n value "); scanf("%d",&n);
while(i<=n)
{
s+=i;
i++;
}
printf("Sum=%d, Avg=%.2f",s, (float)s/n); /* explicit type casting */
getch();
}
```

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```
TC
Enter n value 4
Sum=10, Avg=2.50
```

Activate Windows
Go to PC settings to activate Windows.

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09-Sep-23

