LOOP exercises

**Ex10.**

Write a program that accepts an integer n from the user then displays all numbers from n to -5 (n >= -5) in descending order.

For example, if n = 5, the screen will display as below:



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Program:

Practice10.c 
1 
2 
3 
4 
5 
6 
#include<stdio.h> 
int main 
return 
o; 

**EX11.**

Write a program that accepts two integers a and b from the user and displays the sum of all the numbers from a to b on the screen:

For example, if a = 5, b = 9, the screen will display as below:



Because 5 + 6 + 7 + 8 + 9 = 35

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Program:

Practicel 1 .c 
1 
2 
3 
4 
5 
6 
#include<stdio.h> 
int main 
return 
o; 

**Ex12.**

Write a program that accepts an integer n from the user and displays the sum of all odd numbers from 0 to n on the screen.

For example, if n = 7, the program will produce the following result:



Because 1 + 3 + 5 + 7 = 16

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Program:

Practice12.c 
1 
2 
3 
4 
5 
6 
#include<stdio.h> 
int main 
return 
o; 

**Ex13**.

Write a program that accepts an integer n from the user and prints the divisors of n (n > 0) on the screen.

For example, if n = 12, the screen will display as below:



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Program:

Practice13,c 
1 
2 
3 
4 
5 
6 
#include<stdio.h> 
int main 
return 
o; 

**Ex14.**

Write a program that accepts an integer n and prints all even numbers from n to 100 on the screen.

For example, if n = 90, the program will produce the following result:



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Program:

Practice14.c 
1 
2 
3 
4 
5 
6 
7 
8 
9 
10 
#include<stdio.h> 
int main 
int n ; 
scanf( "%d" , 
while (n 
return ê', 
100) 

**Ex15**.

Write a program to print all numbers from 1 to 1000 (including 1 and 1000), which end with 0. It means the program will display 10, 20, 30, ..., 990, 1000 on the screen.

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Program:

Practicel 5.c 
1 
2 
3 
4 
5 
6 
7 
8 
9 
#include<stdio.h> 
int main 
int i 
1; 
do { 
while i 
return 0; 
1000); 

**Ex16.**

Write a program to Find the Roots of a Quadratic Equation

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**Suggestions**:

ax2 + bx 
a, b and 
c 
are 
0, where 
real numbers and 

The term b2-4ac is known as the discriminant of a quadratic equation. It tells the nature of the roots.

* If the discriminant is greater than 0, the roots are real and different.
* If the discriminant is equal to 0, the roots are real and equal.
* If the discriminant is less than 0, the roots are complex and different.

-b + V(b2- 
If the discriminant > O, 
If the discriminant = O, 
If the discriminant < O, 
rootl = 
root2 = 
rootl 
= root 2 = 
-b 
4ac) 
4ac) 
rootl = 
root 2 = - 
b 
-b 
V-(b2 
V-(b2 
- 4ac) 
- 4ac) 
Figure: Roots of a Quadratic Equation 

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**Output**:

Enter 
4 
5.6 
rootl 
coefficients a, 
b 
-0.87+1. 
30i and 
and c: 
root2 = 
2.3 
-0.87-1.301 

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**Note**: Using sqrt() function in the "math.h" library to calculate the square root

**Ex17.**

* In some card games, a numbered card is worth its face value, the Jack, Queen and King, are worth 11 points each and the Ace is worth 1 point.
* Write a program that accepts the rank of a card and displays the point value of that card.  The user enters '0' for the number 10 card.  Use an **if else** construct for your first version of the program.

**EX18.**

Write a program that does the following steps: 
1. 
2. 
3. 
4. 
5. 
Exa 
Accept an integer n > O from keyboard (does not need to check input) 
Calculate Fl(n) = n! 
Calculate 
Enter an integer m >1 (does not need to check input) 
Calculate n'" 
le out 
Enter n: 4 
Fl(n) = 24 
F2(n) = 10 
Enter m: 3 
Result: 64 