

Tutorial No. 5

C Programming (tests and loops).

Exercise 1:

Write a C program that displays all the divisors of an integer greater than 1 entered by the user.

Exercise 2:

Write a C program that calculates the Greatest Common Divisor (GCD) using Euclid's method, (employing both while(){} and do{}while() loops).

Exercise 3:

Write an C program that prompts for a starting number and then displays the next ten numbers. For example, if the user enters the number 17, the program will display the numbers from 18 to 27.

Additional Exercises

Exercise 1:

Write a program to draw the following shape:

```
*  
**  
***  
****  
*****  
*****  
*****  
*****  
*****
```

Exercise 2:

1. Write a C program to determine the minimum of two real numbers x and y. This minimum will be denoted as "Min".
2. Write a C program to sort three real numbers A, B, C in ascending order.

Exercise 3 :

Write a program that displays all pairs (x, y), where x is an integer between 1 and p and y is an integer between 1 and q; p and q are two integers entered by the user. The display should be as shown in the following example, which corresponds to p = 3 and q = 5:

Solution

Exercice 1 :

```
#include<stdio.h>

int nbr,i,m;

int main () {
printf("Veuillez entrer un nombre entier:");
do{
scanf("%i",&nbr);
if(nbr<=1){
printf("erreur veuillez saisir un nombre superieur à1" );}
}while(nbr<=1)
printf("Les diviseur du nombre %d sont :",nbr) ;
for(i=1;i<nbr/2;i++){
if(nbr%i==0){
printf("%d\n",i);}
}
return 0 ;}
```

Exercice 2 : PGCD

```
//exercice N1
#include <stdio.h>
int r,a,b;
int main () {
scanf("%d",&a);
scanf("%d",&b);
while (b > 0) {
r = a % b;
a = b;
b = r;
}
printf("%d",a);
return 0;
}
```

Exercice 3 :

```
#include<stdio.h>
```



```
int nbr;  
int main () {  
printf("Veuillez entrer un nombre entier:");  
scanf("%i",&nbr);  
printf("les dix nombre qui suit le nombre %d sont :\n",nbr);  
for(i=nbr;i<=nbr+10;i++){  
printf("%d \n",i); }  
return 0 ;}
```