Lesson 65 Common mistakes

When you watch programming videos on the site, you feel that you understand programming well, but when you write programs yourself, you will discover that there are some things that you have not yet understood in a healthy way, because programming 10% of it is education and 90% is exercises, which is that you make programs By yourself, just watching videos does not make you distinguished in programming, you must solve many questions and exercises.

When you first solve exercises, you will find some mistakes, but these mistakes are a natural thing that is at the beginning, and happens to all beginners in the field.

In this lesson, we will learn about some common mistakes, but it should be noted that it is necessary to train a lot, solve many programs, and try to make programs that you did not study.

First mistake :

x = y means the x gets the value of y.

Hence there is a difference between x=y and y=x .

Example :

```
#include <stdio.h>
int main() {
int x = 5;
int y = 0;
x = y;
//X gets the value of y
printf("%d %d", x, y );
}
```

output: 0 0

Try the code yourself : Click Here!

But if we switch the variables :

```
#include <stdio.h>
int main() {
int x = 5;
int y = 0;
 y = x;
//X gets the value of y
printf("%d %d", x, y );
}
```

output: 5 5

Try the code yourself : Click Here!

Second Mistake :

```
#include <stdio.h>
int main() {
int i, sum;
for (i = 1; i <= 5; i++)
sum += i;
//Sum of the numbers from 1 to 5
printf("%d\n", sum);
}
```

output:

```
32782
```

Try the code yourself : Click Here!

The result here should have been 15, but as we remark we didn’t initialize the variable sum. Which means we need to give the variable sum a value in the first loop, or it’s going to take a garbage value.

```
#include <stdio.h>
int main() {
int i, sum = 0;
for (i = 1; i <= 5; i++)
sum += i;
//Sum of the numbers from 1 to 5
printf("%d\n", sum);
}
```

output:

```
15
```

Try the code yourself : Click Here!

Third Mistake :

The brackets **{ }**

The **for** command and the **if** command only affect one line.

```
#include <stdio.h>
int main() {
int i, sum=0;
for (i = 1; i <= 5; i++){
sum += i;
printf("%d\n", sum);
}
}
```

output:

```
1
3
6
10
15
```

Try the code yourself : Click Here!

Fourth Mistake :

If we have 5 numbers and we want to print the maximum of them.

In this question, a lot of mistakes will happen if you do not train a lot.

```
#include <stdio.h>
int main() {
int i, max=0,x;
for (i = 1; i <= 5; i++) {
printf("Enter a number : ");
scanf("%d", &x);
if (x > max)
max = x;
/*
If the first number is greater than max, he records it in max
If the second number is greater than max, he records it in max
If the third number is greater than max, he records it in max
*/
}
printf("%d", max);
}
```

input:

```
5
3
9
7
```

200

output:

200

Try the code yourself : Click Here!

But this program, if you solve it in this way in any exam, the result will be wrong, because we assumed that the numbers are only **positive**, but what if there are only **negative** numbers

Example:

```
#include <stdio.h>

int main() {

int i, max=0,x;

for (i = 1; i <= 5; i++) {

printf("Enter a number : ");

scanf("%d", &x);

if (x > max)

max = x;

/*

If the first number is greater than max, he records it in max

If the second number is greater than max, he records it in max

If the third number is greater than max, he records it in max

*/

}

printf("%d", max);
}
```

input:

```
-1

-8

-6

-7

-2
```

output:

```
0
```

Because we initialized max to 0.

Try the code yourself : Click Here!