Lab Assignment 2 4

Exercise 1

Now that you know how the **for** loop works, what is the expected output of the following program. Please run the following program on your PC to check your answer.

```
[*] lab2_1.c
1   #include <stdio.h>
2
3   int main() {
4       int i;
5       for(i=0 ; i<5; ++i) {
6           printf("*\n");
7       }
8       return 0;
9   }
```

Out put:

```
*
*
*
*
*
```

Exercise 2

a) Rewrite the code in exercise 1 using **while** loop instead? Please verify your answer by running the code on your computer.

```
#include<stdio.h>

int main(){
    int x=0;
    while(x < 5){
        x++;
        printf("*\n");
    }
    return 0;
}
```

b) Repeat part (a) using **do...while** loop.

```c
#include<stdio.h>

int main(){
    int x=0;
    do{
        printf("*\n");
        x++;
    }
    while(x < 5);
    return 0;
}
```

Exercise 3

Rewrite the same code of exercise 1 with a slight variation. Replace the asterisk (*) character that is exactly in the middle into a dash (-) character. Don't use two loops. Hint: Add an if statement inside the for loop.

```c
#include <stdio.h>

int main() {
    int i;

    for (i = 0; i < 5; ++i) {
        if (i == 2) { // Check if it's the middle iteration (i = 2)
            printf("-\n"); // Print a dash in the middle
        } else {
            printf("*\n"); // Print an asterisk otherwise
        }
    }

    return 0;
}
```

Exercise 4

Write a C program that uses an appropriate control structure to print the following output on the screen:

```
*****
-----------------------------
```

```c
#include<stdio.h>
int main(){
    for(int x = 0 ; x <5 ; x++){
        printf("* ");
    }
    printf("-----------------");
    return 0;
}
```

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