Solution to Exercises in L#13

Solution to Exercise (1) on Slide 11

- Assume *int b=1;* find error(s), if any, in the following statements

```
while (b<7):              → : should be removed
{
    printf("b=%d\n", b);
    b++;
};                       →  ; should be removed
```

```
while (b<7)
{
    printf("b=%d\n", b);
    b--;
}
```

No error, but the loop will be executed forever because b never becomes greater than or equal to 7

Solution to Exercise (2) on Slide 12

- Assume *int b=1;* find error(s), if any, in the following two while statements

```
while (7)
    printf("hello\n");
```

No error, but it is an infinite loop. It will print hello an infinite number of times because the constant 7 represents True

```
while (3+1==7)
{
    printf("b=%d\n", b);
    b++;
}
```

No error, but the loop will not be executed because (3+1)=4 is not equal to 7

Solution to Exercise (3) on Slide 14

```c
#include <stdio.h>
void main(void)
{
        int number = 0;
        int count = 1;
        int sum = 0;

        while (count <= 4)
        {
                printf("\nEnter your number to add\n");
                scanf_s("%d", &number);
                sum += number;
                count++;
        }
        printf("The total is % d\n", sum);
}
```

Also, you can do it without using loops!

Solution to Exercise (4) on Slide 15

```c
#include <stdio.h>
void main(void)
{
    int x = 0;
    int sum = 0;
    printf("Enter a number to add. Enter <EOF> if you wish to stop \n");
    scanf_s("%d", &x);
    while (x != EOF)
    {
        sum += x;
        printf("Enter next number to add.\n");
        scanf_s("%d", &x);
    }
    printf("The total is %d\n", sum);
}
```

Note: EOF is <ctrl+z>

Solution to Exercise (5) on Slide 26

Find error(s), if any, in the following for statements

- for (day=1,day<3,day++) printf("good morning\n");

  Semicolon ; should be used!

- for (day=3;day<=10;day++) ;

  No error, the do nothing statement ; will be executed!

- for (day=7;day<3;day++) printf("good morning\n");

  No error, but its loop body will not be executed

- for (day=7;day<7;day--) printf("good morning\n");

  No error, but its loop body will not be executed

Solution to Example on Slide 27

- This nested *for* loop prints a series numbers on multiple lines as follows:

    1 1 1 1
    2 2 2 2
    3 3 3 3

Solution to example on Slide 30

```
#include "stdafx.h"

void main(void)
{
    int a;
    for(a =1; a <= 7; a++)
    {
            if(a == 4)
                    break;
            printf("%d\n", a);
    }
    printf("I got out of the loop at a==%d\n",a);
}
```

What is the output of the program?

1
2
3
I got out of the loop at a==4

Solution to Example on Slide 33

```
#include "stdafx.h"
void main(void)
{
    int a;
    for(a =1; a <= 7; a++)
    {
            if (a == 4)
                continue;
            printf("%d\n",a);
    }
}
```

What is the output of the program?

1
2
3
5
6
7