COEN 11- Practice I

Solutions on Wednesday

1. What is printed?

```
int main ( )
{
        printf ("%d\n", a(5));
        return 0;
}

int a (int x)
{
        int     y;

        y = b (x) + b (++x) + b (x++);
        return (y + x);
}

int b (int z)
{
        return (z * 10);
}
```

2. What is printed?

```
int main ( )
{
        int     i;
        int     x[5] = {0, 1, 2, 3, 4};
        int     *p = x;
        int     a = 0;
        int     b = 10;

        x[0] += f (a, &b, x);
        printf ("%d, %d\n", a, b);
        for (i = 0; i < 5; i++)
                printf ("%d\n", x[i]);
        return 0;
}

int f (int x, int *y, int *z)
{
        x += 100;
        *y += 200;
        z[2] += 300;
        return (x);
}
```

3. Write a function to return the sum of all the elements in a 2D array of size NROWSxNCOLS. The prototype of the function is:
   int sum (int [][NCOLS]);

4. Write a function to initialize 2D array x (size MxM) with the following pattern (shown for a 5x5 array):

   1 0 0 0 1
   0 1 0 1 0
   0 0 1 0 0
   0 1 0 1 0
   1 0 0 0 1

5. Write a function to return the number of sub-strings (sequence of non-spacing characters) in string str received as argument. The prototype of the function is:
   int count_strings (char *);

6. Write a function to return the length of the longest string in an array of strings (size NROWSxNCOLS) received as argument. Do not use strlen! The prototype of the function is:
   int largest_size (char [][NCOLS]);