Name: Mark Achiles G. Flores Jr.
Year & Section: BSCS 1-4

Assessment: Function without arguments

Exercise 1: Create a function to print the Fibonacci sequence

Define a function named "printFibonacci()" that does not take any arguments. In the function, use a loop to generate and print the first 10 numbers of the Fibonacci sequence. Call the "printFibonacci()" function from the main function.

```c
#include <stdio.h>

void printFibonacci() {
    int seq[] = {0, 1, 0, 0, 0, 0, 0, 0, 0, 0};

    for (int i=2; i<10; i++) {
        seq[i] = seq[i-1] + seq[i-2];
    }

    for (int i=0; i<10; i++) {
        printf("%d ", seq[i]);
    }
}

int main() {
    printFibonacci();

    return 0;
}
```

Exercise 2: Create a function to print the multiplication table of a number

Define a function named "printMultiplicationTable()" that does not take any arguments. In the function, use a loop to generate and print the multiplication table of a number (e.g., 7) up to 10. Call the "printMultiplicationTable()" function from the main function.

```c
#include <stdio.h>

void printMultiplicationTable() {
    int num, i;

    printf("Give me a number: ");
    scanf("%d", &num);

    printf("Multiples of %d (up to %d * 10):\n", num, num);
    for (i=1; i<=10; i++) {
        printf("%d\n", num * i);
    }
}

int main() {
    printMultiplicationTable();

    return 0;
}
```

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Exercise 3: Create a function to calculate the factorial of a number

- Define a function named "calculateFactorial()" that does not take any arguments.
- In the function, ask the user to enter a number (e.g., 5) and calculate its factorial using a loop.
- Print the calculated factorial on the console.
- Call the "calculateFactorial()" function from the main function.

```c
#include <stdio.h>

void calculateFactorial() {
    int num, fac, i;

    printf("Give me a number: ");
    scanf("%d", &num);

    fac = num;
    for (i=1; i<num; i++) {
        fac *= i;
    }
    printf("The factorial of %d is %d", num, fac);
}

int main() {
    calculateFactorial();

    return 0;
}
```

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Exercise 4: Create a function to print a pattern of stars

- Define a function named "printStarPattern()" that does not take any arguments.
- In the function, use nested loops to print a pattern of stars as shown below:

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

- Call the "printStarPattern()" function from the main function.

```c
#include <stdio.h>

void printStarPattern() {
    int i, j;

    for (i=1; i<=5; i++) {
        for (j=1; j<=i; j++) {
            printf("*");
        }
        printf("\n");
    }
}

int main() {
    printStarPattern();

    return 0;
}
```

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Exercise 5: Create a function to print a pyramid pattern

Define a function named "printPyramidPattern()" that does not take any arguments. In the function, use nested loops to print a pyramid pattern of stars as shown below:

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

- Call the "printPyramidPattern()" function from the main function.

```c
#include <stdio.h>

void printPyramidPattern() {
    int i, j, k;

    for (i=1; i<=5; i++) {
        for (j=1; j<=5-i; j++) {
            printf(" ");
        }
        for (k=1; k<=(i*2)-1; k++) {
            printf("*");
        }
        printf("\n");
    }
}

int main() {
    printPyramidPattern();

    return 0;
}
```