Name: _____ Student ID: _____ Date: _____

Worksheet 9

for... statement

Objectives

After completing this worksheet, you should be able to

- Understand the concept of repetition control structures
- Comprehend the usage of ***for...*** statement
- Appreciate the usage of ***break*** and ***continue*** statement

1. Open a new project, write program 9.1.

```
#include <stdio.h>
int main(int argc, char *argv[ ])
{
        int x;
        for(x = 1; x <= 10; x++) {
                printf("x =  %d \n",x);
        }

        return  0;
}
```

Program 9.1

2. Run Program 9.1 and record the results in Table 9.1.

Results from	
Step #1.	Step #3.

Table 9.1

3. From Program 9.1, change the for(...) statement from

   for(x = 1; x <= 10; x++) **to** **for(x = -5; x <= 10; x += 3).**

   Then run the modified program and record the results in Table 9.1.

   From Program 9.1 (before modifying), if we only need to display the odd number between 1-100, what parts of the program we have to modify?

   _____

   _____

4. From Program 9.1, change the ***for(...)*** statement from

   for(x = 1; x <= 10; x++) **to** **for(x = 10; x >= 0; x- -).**

   Then run the modified program and record the results.

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5. Opent a new project and write Program 9.2.

```
#include <stdio.h>
int main(int argc, char *argv[ ]) {
        char x;
        for(x = 'a'; x <= 'z'; x++)
                printf("%5c",x);

        return  0;
}
```

Program 9.2

   Then run the program and record the results.

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6. Opent a new project and write Program 9.3.

```
#include <stdio.h>
int main(int argc, char *argv[ ])
{
        float Count;
        for(Count = 5; Count > 0; Count-=0.5) {
            printf("%5.2f",Count);
        }

        return  0;
}
```

Program 9.3

Then run the program and record the results.

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7. Opent a new project and write Program 9.4.

```
#include <stdio.h>
int main(int argc,  char *argv[ ])
{
        int i;
        for(i = 1; i <= 10; i++)  {
            if ( i == 5 ) {
                printf("This number is wonderful");
                break;
            }
            printf("i = %d \t", i);
        }

        return  0;
}
```

Program 9.4

Then run the program and record the results.

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8. From Program 9.4, replace the **break** statement with **continue** statement. Then run the program and record the results.

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9. Opent a new project and write Program 9.5.

```
#include <stdio.h>
int main(int argc, char *argv[ ]) {
        int a, b;
        for(a = 2; a <= 5; a++)  {
            for(b = 1; b <= 3; b++) {
                printf("a = %d\t   b = %d\t   a + b = %d\n",a, b, a+b);
              }
            printf("\n*************************\n\n");
        }

        return  0;
}
```

Program 9.5

Run the program and record the results.

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From Program 9.5, modify the program to print multiplication tables for 2 – 12

Name: _____ Student ID: _____ Date: _____

Homework 9

1. Write a program that displays the summation of 1 to a number entered by user through the keyboard. Given that the program must show user interface and results as follows:

Please enter an integer number: 5	**->**	**Suppose that user enters 5.**
The summation of 1 to 5 is 15	**->**	**(1 + 2 + 3 + 4 + 5 = 15)**

2. Write a program that accepts an integer value from the keyboard and stores it in the variable n. Then the program will calculate the factorial of non-negative integer n, denoted by n!. The factorial function is formally defined by:

$$n! = n*(n-1)*(n-2)*...*3*2*1, \qquad \text{which } 0! = 1$$