Assignment 1

Task 1: Write a program that asks the user to enter two numbers, obtains them from the user and prints their sum, product, difference, quotient and remainder.

Paste your program code in the box below

```
#include <stdio.h>

int main()
{
    int first;
    int second;
    printf("Enter two numbers: \n");
    scanf("%d %d", &first, &second);
    printf("Sum: %d\n", first + second);
    printf("Product: %d\n", first * second);
    printf("Difference: %d\n", first - second);
    printf("Quotient: %d\n", first / second);
    printf("Remainder: %d\n", first % second);

    return 0;
}
```

Paste your program output in the box below

```
❯ tcc -run .\assignment1_1.c
Enter two numbers:
5 3
Sum: 8
Product: 15
Difference: 2
Quotient: 1
Remainder: 2
```

Task 2: Write a program that reads in five integers and then determines and prints the largest and the smallest integers in the group. Use only the programming techniques you have learned in Week 1

Paste your program code in the box below

```
#include <stdio.h>

int main()
{
    int first;
    int second;
    int third;
    int forth;
    int fifth;
    printf("Enter five numbers: \n");
    scanf("%d %d %d %d %d", &first, &second, &third,
&forth, &fifth);
    if (first > second && first > third && first > forth &&
first > fifth) printf("Largest: %d\n", first);
    if (second > first && second > third && second > forth
&& second > fifth) printf("Largest: %d\n", second);
    if (third > first && third > second && third > forth &&
third > fifth) printf("Largest: %d\n", third);
    if (forth > first && forth > second && forth > third &&
forth > fifth) printf("Largest: %d\n", forth);
    if (fifth > first && fifth > second && fifth > third &&
fifth > forth) printf("Largest: %d\n", fifth);

    if (first < second && first < third && first < forth &&
first < fifth) printf("Smallest: %d\n", first);
    if (second < first && second < third && second < forth
&& second < fifth) printf("Smallest: %d\n", second);
    if (third < first && third < second && third < forth &&
third < fifth) printf("Smallest: %d\n", third);
    if (forth < first && forth < second && forth < third &&
forth < fifth) printf("Smallest: %d\n", forth);
    if (fifth < first && fifth < second && fifth < third &&
fifth < forth) printf("Smallest: %d\n", fifth);
    return 0;
```

```
}
```

Paste your program output in the box below

```
❯ tcc -run .\assignment1_2.c
Enter five numbers:
12 24 32341 12 2
Largest: 32341
Smallest: 2
```

Task 3: Write a program that reads in the radius of a circle and prints the circle's diameter, circumference and area. Use the constant value 3.14159 for π. Perform each of these calculations inside the printf statement(s) and use the conversion specifier "%f"

Paste your program code in the box below

```
#include <stdio.h>

int main()
{
    float pi = 3.14159;
    float radius;
    printf("Enter a radius: ");
    scanf("%f", &radius);
    printf("Diameter: %f\n", 2 * radius);
    printf("Circumference: %f\n", 2 * pi * radius);
    printf("Area: %f\n", pi * radius * radius);

    return 0;
}
```

Paste your program output in the box below

```
❯ tcc -run .\assignment1_3.c
Enter a radius: 1
Diameter: 2.000000
Circumference: 6.283180
```

```
Area: 3.141590
```

Task 4: Write a program that reads three nonzero integers and determines and prints if they could be the sides of a right triangle. [Hint: $c^2 = a^2 + b^2$]

Paste your program code in the box below

```
#include <stdio.h>

int main()
{
    int first;
    int second;
    int thrid;
    printf("Enter 3 nonzero ints in terms c, a, b: ");
    scanf("%d %d %d", &first, &second, & thrid);
    if (((first < 0) || (second < 0) || (thrid < 0) ||
(first == 0) || (second == 0) || (thrid == 0)))
    {
        printf("Must be nonzero");
        return 0;
    }

    if (first * first == second * second + thrid * thrid)
printf("Success, this is a right triangle");
    else printf("Is not a right triangle");
    return 0;
}
```

Paste your program output in the box below

```
❯ tcc -run .\assignment1_4.c
Enter 3 nonzero ints in terms c, a, b: 5 3 4
Success, this is a right triangle
```

Task 5: Write a program that reads 10 non-negative integers and determines and prints the maximum value of the 10 inputs

Paste your program code in the box below

```c
#include <stdio.h>

int main()
{
    int max = 0;

    for (int x = 0; x < 10; x++)
    {
        int input;
        printf("Enter a positive int: ");
        scanf("%d", &input);
        if (input < 0)
        {
            printf("Cannot be negative");
            return 0;
        }
        if (input > max) max = input;
    }
    printf("Max number is: %d", max);
}
```

Paste your program output in the box below

```
❯ tcc -run .\assignment1_5.c
Enter a positive int: 1
Enter a positive int: 23
Enter a positive int: 4
Enter a positive int: 5
Enter a positive int: 200
Enter a positive int: 1
Enter a positive int: 5
Enter a positive int: 6
Enter a positive int: 2
Enter a positive int: 3
Max number is: 200
```

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