

Lab 1

CS625

- 2.1** (*Convert Celsius to Fahrenheit*) Write a program that reads a Celsius degree from the console and converts it to Fahrenheit and displays the result. The formula for the conversion is as follows:

$$\text{fahrenheit} = (9 / 5) * \text{celsius} + 32$$

Here is a sample run of the program:

```
Enter a degree in Celsius: 43 ↵ Enter
43 Celsius is 109.4 Fahrenheit
```



- 2.2** (*Compute the volume of a cylinder*) Write a program that reads in the radius and length of a cylinder and computes the area and volume using the following formulas:

$$\begin{aligned} \text{area} &= \text{radius} * \text{radius} * \pi \\ \text{volume} &= \text{area} * \text{length} \end{aligned}$$

Here is a sample run:

2.12 (*Print a table*) Write a program that displays the following table:

a	b	a ** b
1	2	1
2	3	8
3	4	81
4	5	1024
5	6	15625

***2.13** (*Split digits*) Write a program that prompts the user to enter a four-digit integer and displays the number in reverse order. Here is a sample run:

```
Enter an integer: 3125 ↵Enter
3
1
2
5
```

***2.14** (*Geometry: area of a triangle*) Write a program that prompts the user to enter the three points (x_1, y_1) , (x_2, y_2) , and (x_3, y_3) of a triangle and displays its area. The formula for computing the area of a triangle is

$$s = (side1 + side2 + side3) / 2$$

$$area = \sqrt{s(s - side1)(s - side2)(s - side3)}$$

Here is a sample run:

```
Enter three points for a triangle: 1.5, -3.4, 4.6, 5,
9.5, -3.4 ↵Enter
The area of the triangle is 33.6
```