

### Exercise

1. Write a program that calculates  $e$  and then prints the value of  $e$ . Create a function that calculates factorial and use it in the program.

$$e = 1 + 1 + \frac{1}{2!} + \frac{1}{3!} + \frac{1}{4!} + \dots$$

Have your program run add the first twenty terms and then print the value.

2. Write a C program that prints the period and duty cycle of a 555 timer given  $R_a$ ,  $R_b$ , and  $C$ .