

COSC 220: HW#1
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1. Prompt a user to enter an integer N and print “COSC 220 is Awesome!” N-times.
2. Write code that prompts the user to enter a list of numbers using a sentinel to stop the output. Then compute the average of them and print it out.
3. Write code to calculate “N!” where you must use a function other than “main” in your program. Do it 2 ways, by using both an increment and decrement operator in a loop.
4. Approximate π by calculating the first 10,000 terms in the following series:

$$\pi \approx 4 \times (1 - 1/3 + 1/5 - 1/7 + 1/9 - 1/11 \dots) \quad (1)$$

5. Write code that reverses an integer that is entered. i.e: 12345678 \rightarrow 87654321
6. Write code that reads a list of integers and outputs the largest value right after a sentinel is entered.
7. Write code that outputs the largest and second largest values in a list of numbers entered prior to a sentinel being entered. Output the values after the sentinel is entered.
8. Approximate the area of a quarter circle by using 10,000 rectangles.
9. Prompt a user to enter ‘b’ and when entered, make the console emit a beep sound. Allow the user to continue to beep as often as desired by repeatedly entering ‘b’. Use a sentinel to exit the program, and when neither a ‘b’ nor sentinel is entered, prompt the user to re-enter.