



EXERCISE I

Go as far as you can!

1.1 (*Displaying three messages*) Write a program that displays **Welcome to Java**, **Welcome to Computer Science**, and **Programming is fun**.

1.2 (*Displaying five messages*) Write a program that displays **Welcome to Java** five times.

1.3* (*Displaying a pattern*) Write a program that displays the following pattern:

```
      J      A      V      V      A
      J      A A      V      V      A A
J      J      AAAAA      V V      AAAAA
  J J      A      A      V      A      A
```

1.4 (*Printing a table*) Write a program that displays the following table:

a	a^2	a^3
1	1	1
2	4	8
3	9	27
4	16	64

1.5 (*Computing expressions*) Write a program that displays the result of $\frac{9.5 \times 4.5 - 2.5 \times 3}{45.5 - 3.5}$.

1.6 (*Summation of a series*) Write a program that displays the result of $1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9$.

1.7 (*Approximating π*) π can be computed using the following formula:

$$\pi = 4 \times \left(1 - \frac{1}{3} + \frac{1}{5} - \frac{1}{7} + \frac{1}{9} - \frac{1}{11} + \frac{1}{13} + \dots \right)$$

Write a program that displays the result of $4 \times \left(1 - \frac{1}{3} + \frac{1}{5} - \frac{1}{7} + \frac{1}{9} - \frac{1}{11} + \frac{1}{13} \right)$. Use **1.0** instead of **1** in your program.