

## Solve the Output

In a group of 2 to 3, determine what is the output of each of the following sections of correct C++ code. Assume that all parts are assembled (in order) into one `main()` function. **Do NOT use a compiler.**

```
// For all parts
const int WIDTH = 6;
const int HEIGHT = 3;

// Part 1:
int loops = 0;
while (loops < WIDTH) {
    cout << "*";
    loops++;
}
cout << "\n";
while (loops > HEIGHT) {
    cout << "*\n";
    loops--;
}
loops = WIDTH;
while (loops > 0) {
    cout << "\n";
    loops--;
}
cout << endl << endl;
```

```
// Part 3
int row = 0;
while (row < HEIGHT) {
    cout << "$";
    int spaces = row * 2;
    while (spaces > 0) {
        cout << " ";
        spaces --;
    }
    cout << "$\n";
    row++;
}
row = HEIGHT - 1;
while (row >= 0) {
    cout << "$";
    int spaces = row * 2;
    while (spaces > 0) {
        cout << " ";
        spaces --;
    }
    cout << "$\n";
    row --;
}
cout << endl << endl;
```

```
// Part 2
int i = 0;
while (i <= WIDTH) {
    cout << "X";
    i++;
}
cout << "\n";
int row = 0;
while (row < HEIGHT) {
    int col = 0;
    while (col <= WIDTH) {
        if (col == 0 || col == WIDTH) {
            cout << "Y";
        } else {
            cout << " ";
        }
        col++;
    }
    cout << "\n";
    row++;
}
i = 0;
while (i <= WIDTH) {
    cout << "X";
    i++;
}
cout << endl << endl;
```

```
// Part 4
const int NUM_BIG = 4;
const int BIG_COUNT = 2;
int row = 0;
while (row <= NUM_BIG) {
    cout << "Z";
    if (row % BIG_COUNT == 0) {
        int i = 0;
        while (i < WIDTH) {
            cout << "Z";
            i++;
        }
    }
    cout << "\n";
    row++;
}
```

What does all this code spell out on the screen?