

Need Tests that Do and Do Not Fit in width

```

if (r1 + r2 + r3 + r4 + num - 1
    > width) {
    return 0;
} else {
    // print
    // the row
}
printf ("\n");
return 1;
}

```

We need a test that doesn't fit in width.

And a test that does.

No Requirements for this Block of Code

```

// code to print the row
a = width - (r1 + r2 + r3 +
            r4 + num - 1);

```

All code on this slide always executes.

```

for (i = 0; 4 > i; i++) {
    // print one region
}

```

Two More Requirements for These Loops

```

if (a > u[i]) {
    for (j = 0; u[i] > j; j++) {
        printf (".");
    }
} else {
    for (j = 0; a > j; j++) {
        printf (".");
    }
}

```

We need a non-zero region smaller than a.

And a region as large as a non-zero value of a.

Print the Region and Maybe a Gap

```

for (j = 0; u[i] - a > j; j++) {
    printf ("X");
}
if ((num - 1) > i && 0 != u[i]) {
    printf (".");
}

```

Need a region larger than a.

First region (for which i has value 0) is always non-zero. So we need >1 non-zero region.