# Method

1. List features and estimate LOC for each component. Use analogy with past work or a quick prototype.
2. Adjust for reuse or adaptation. Only count the portion you will actually rework.
3. Sum the estimates to get Estimated Source LOC (ESLOC).
4. Convert ESLOC to effort with a productivity rate:

Effort (person‑months) = ESLOC / Productivity (LOC per person‑month)

## Reuse Adjustment

If a fraction of the system is reused, and only part of that needs changes, an easy approximation is:

ESLOC = New\_Code\_Fraction × Total\_LOC + Reused\_Fraction × Total\_LOC × Modified\_Fraction

# Worked Example

Assume a medium web app with the following components:

|  |  |
| --- | --- |
| Component | Estimated LOC |
| REST API | 2,200 |
| Web UI | 1,800 |
| Admin panel | 900 |
| Authentication | 600 |
| Reporting | 1,200 |
| Total raw LOC | 6,700 |

Reuse assumption: 20% reused code, of which 30% will be modified. New code = 80%.

ESLOC = 0.80 × 6,700 + 0.20 × 6,700 × 0.30 = 5,762 LOC

## Effort from Productivity Rates

Convert ESLOC to effort using several typical productivity rates:

|  |  |
| --- | --- |
| Productivity (LOC/person‑month) | Effort (person‑months) |
| 350 | 16.46 |
| 450 | 12.80 |
| 600 | 9.60 |

Example reading: If your team historically delivers about 450 LOC per person‑month on similar work, plan roughly 12.80 person‑months of effort.

## Translating Effort to Staffing

Average team size = Effort / Schedule. For example, 12.8 PM over 4 months ≈ 3.2 people.