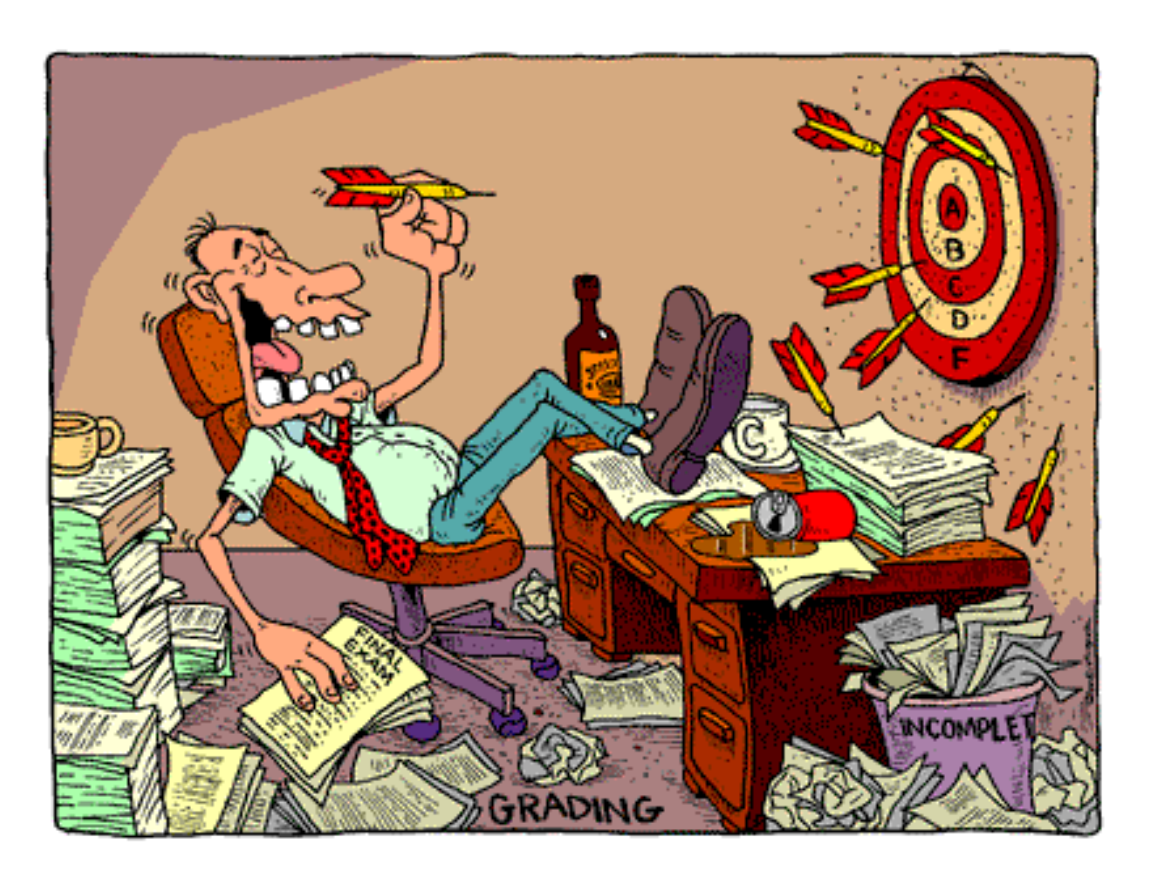


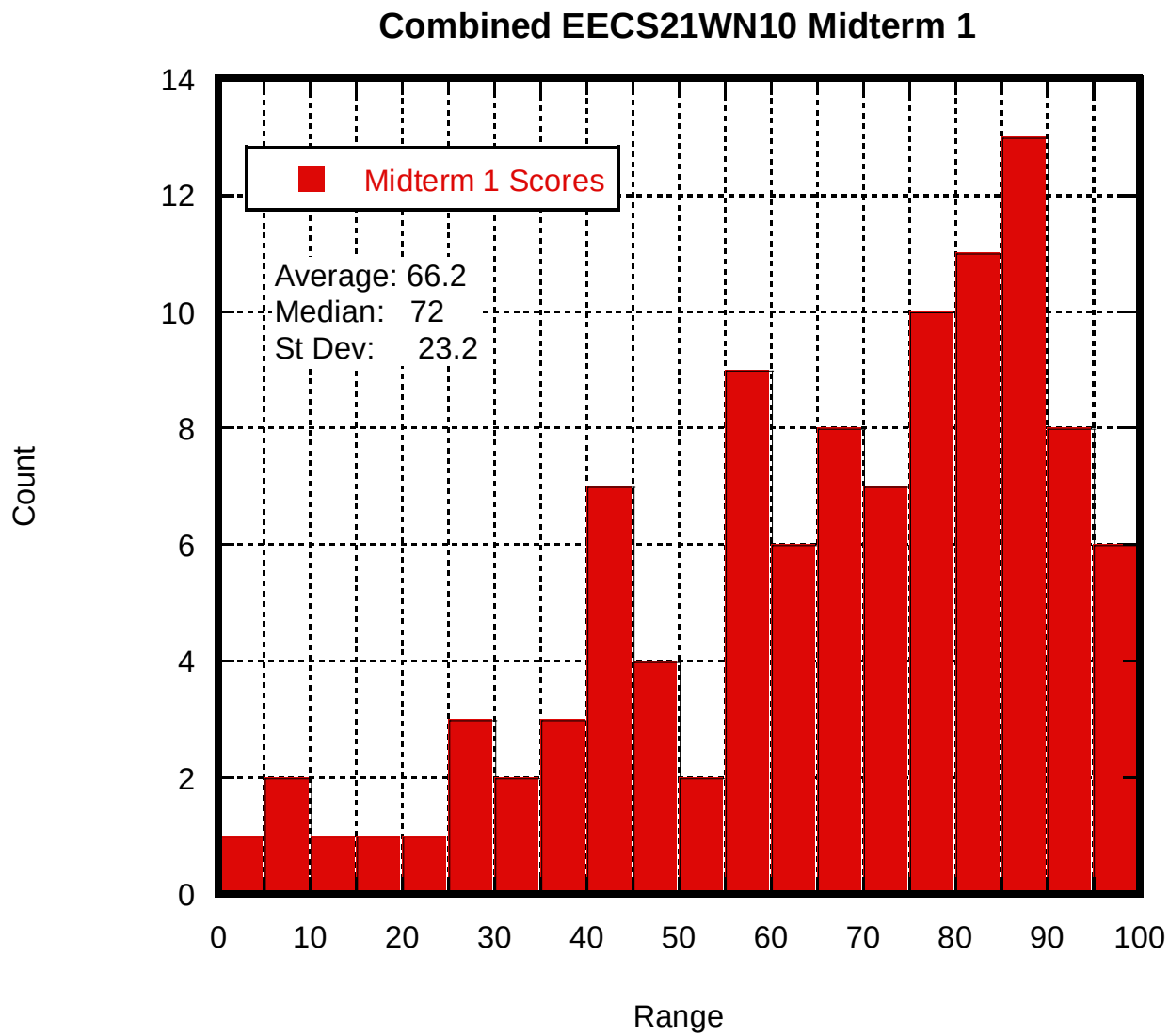

# EECS 215 MIDTERM 1 RESULTS & DISCUSSION

Fred Terry, WN 2010

# EECS 215WN10 Midterm 1 Results

**105 Students Took the Exam**

| Approximate Letter Grade | Minimum Score |
|---|---|
| A+ | 95 |
| A | 85 |
| A- | 80 |
| B+ | 73 |
| B | 65 |
| B- | 58 |
| C+ | 50 |
| C | 43 |
| C- | 35 |
| D+ | 27 |
| D | 20 |
| D- | 12 |
| E | 11 |



# Exam Design

- 65 Points of Straightforward Problems
  - #1a: Node Equations
  - #2a: Mesh Equations
  - #4: Ideal Op-Amp
- 10 Points of Number Crunching
  - #1b: Node Equation Results
  - #2b: Mesh Equation Results
- 25 Points Of 2-3 Combined Concepts
  - #3 a,b: Basic BJT Circuit Gain & Input Resistance
    - Replace Device with Linear Model & Then Analyze
  - #3 c: Apply Thevenin & Max Power Ideas to Analysis started in #3a

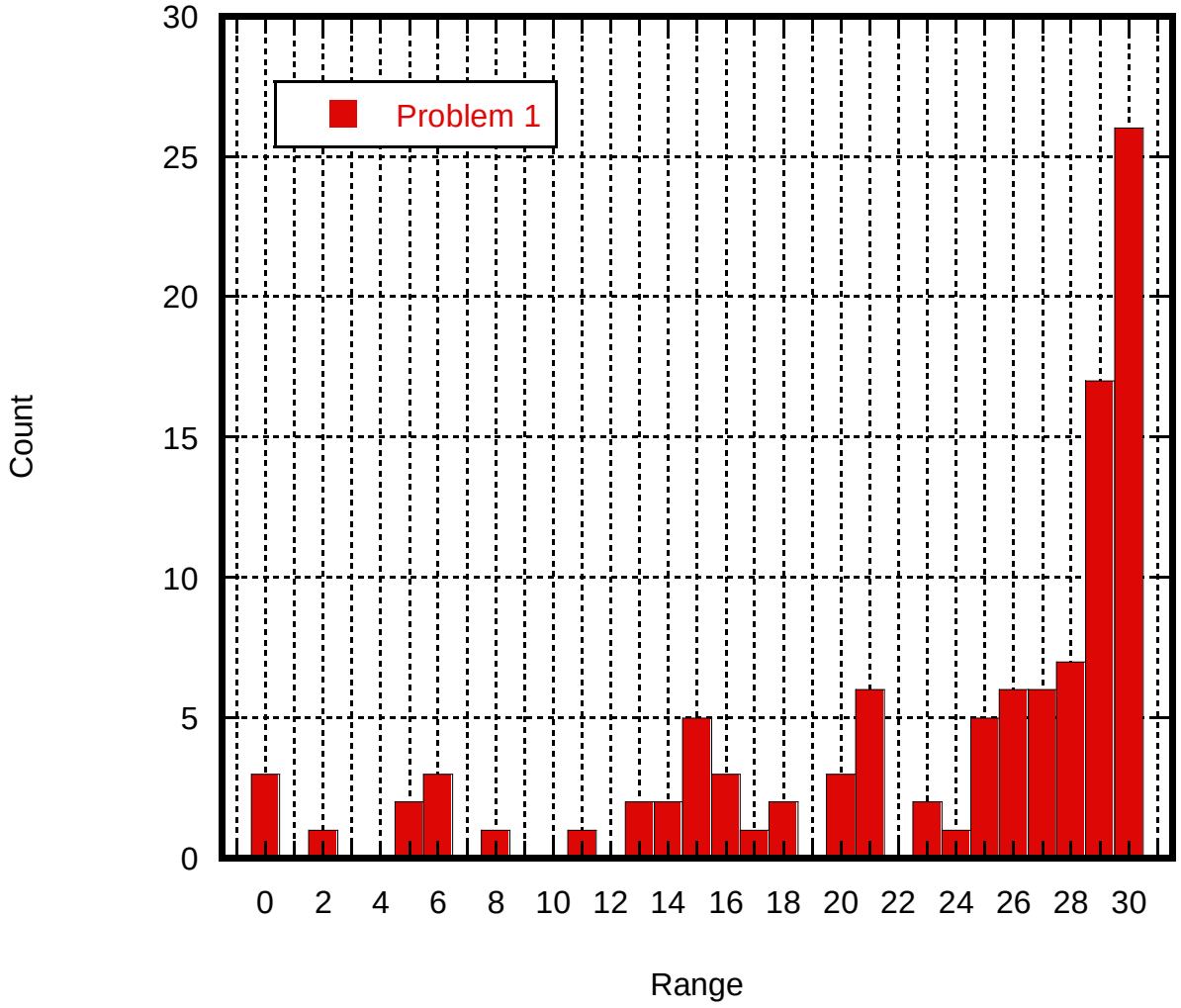
# Expectations

| Category | | A% | A# | B% | B# | C% | C# | D% | D# |
|---|---|---|---|---|---|---|---|---|---|
| straightforward | 65 | 90% | 58.5 | 70% | 45.5 | 50% | 32.5 | 30% | 19.5 |
| number crunching | 10 | 80% | 8 | 60% | 6 | 40% | 4 | 20% | 2 |
| combined concepts | 25 | 70% | 17.5 | 50% | 12.5 | 30% | 7.5 | 10% | 2.5 |
| **total** | **100** | | **84** | | **64** | | **44** | | **24** |

Rough Letter Grade Numbers on First Page Are Slightly Adjusted From These Targets

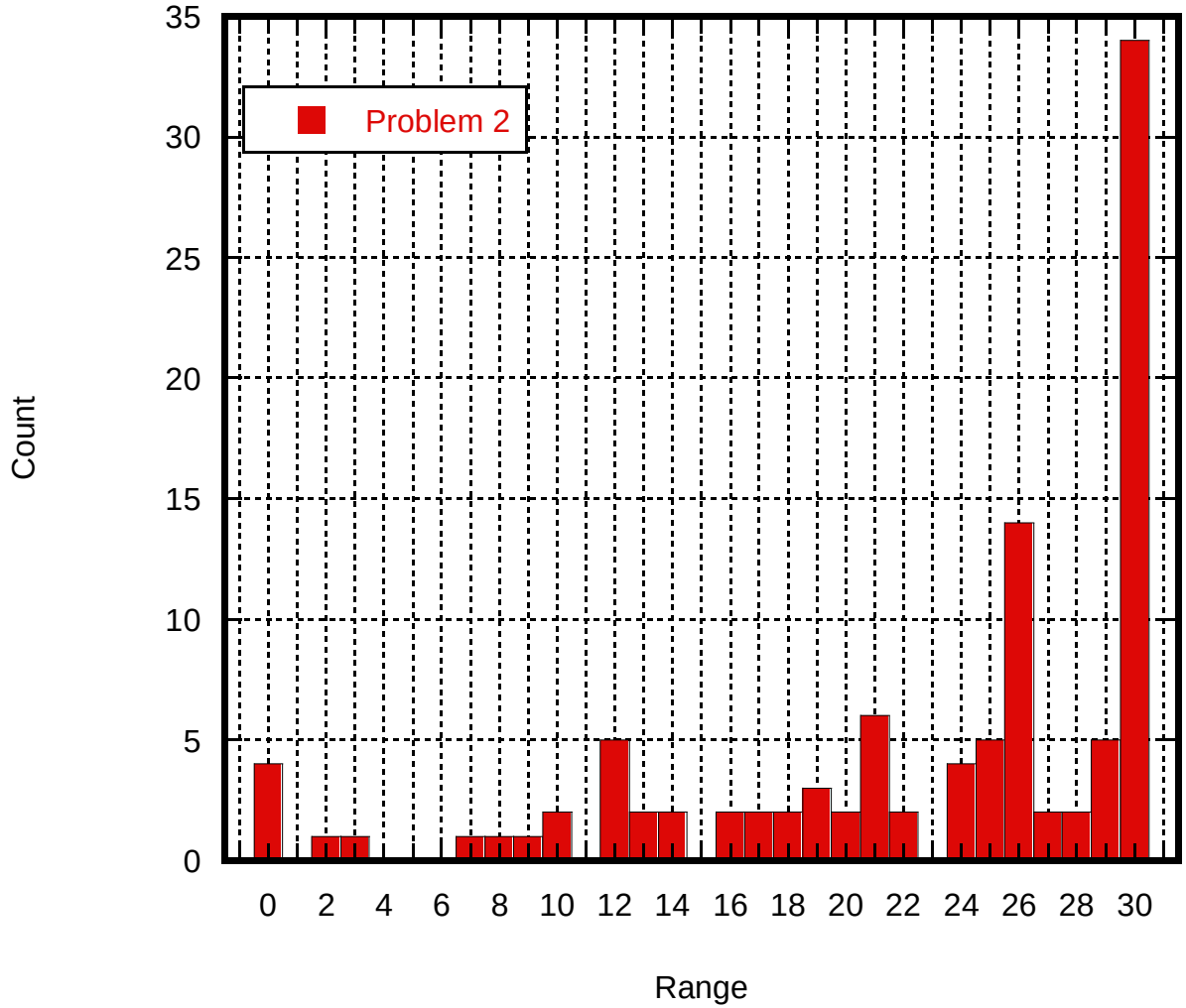
# Problem 1 Performance: Node Analysis

- Average Score 23.3/30 (77.7%)
- Median Score 27/30
- High Class Competence on Node Analysis



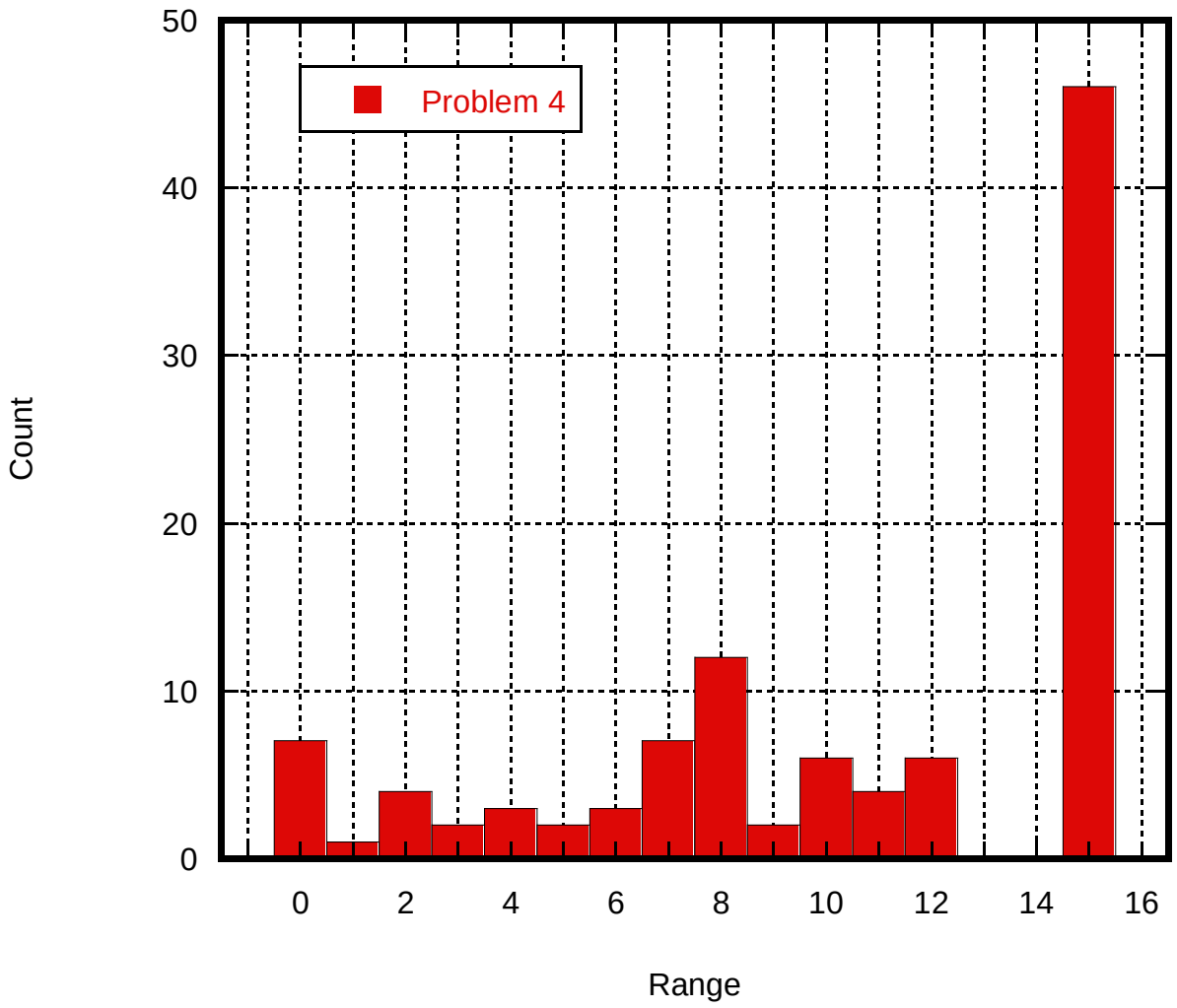
# Problem 2 Performance: Mesh Analysis

- Average Score 22.8/30 (75.9%)
- Median Score 26/30
- High Class Competence on Mesh Analysis



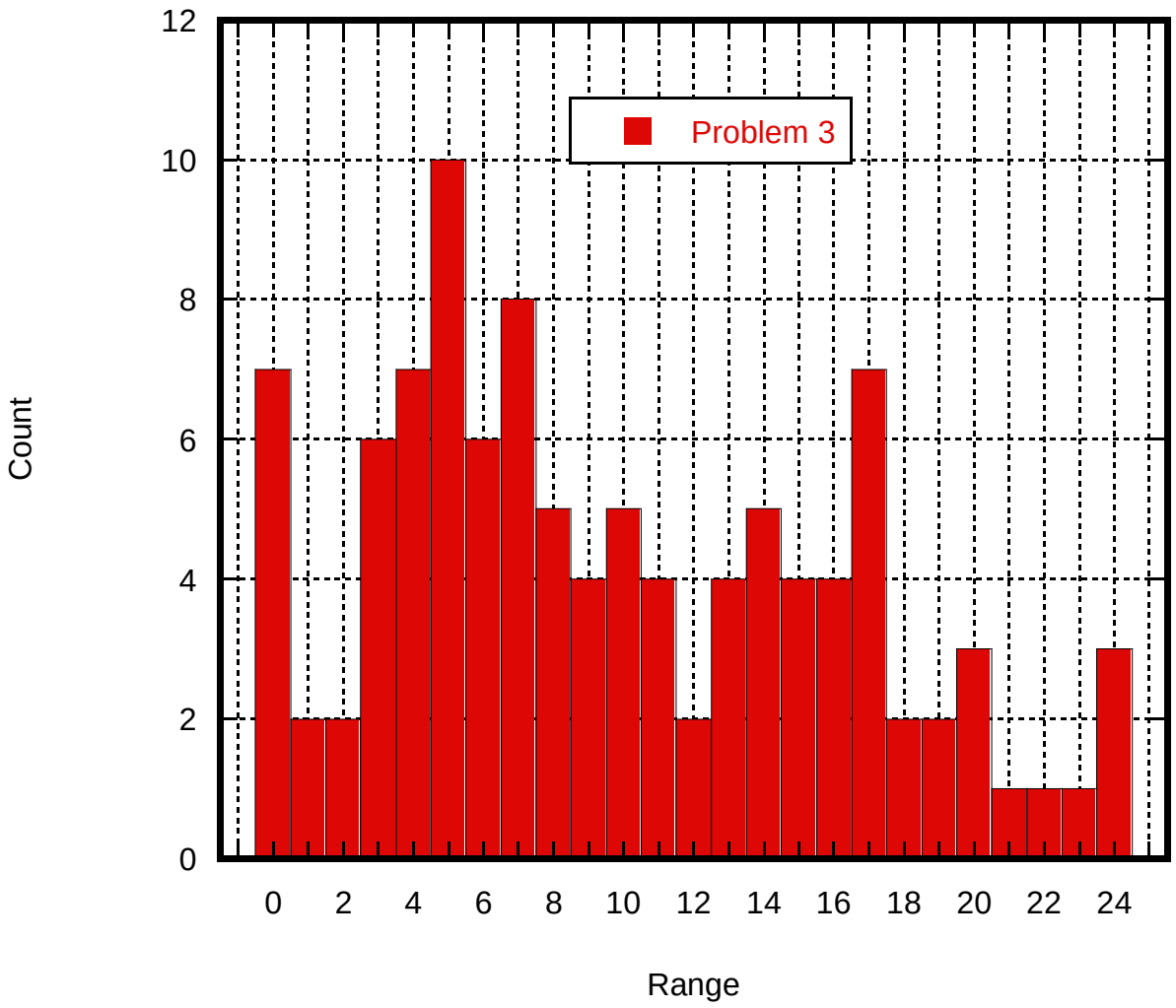
# Problem 4 Performance: Ideal Op-Amp

- Average Score 10.3/15 (68.8%)
- Median Score 11/15
- Very Good Class Competence on Ideal Op-Amp Analysis
- Time Factor, Less Repetition of Problems May Have Influenced Slightly Lower Results Here
- No Real Reasons for Concern



# Problem 3 Performance: BJTs, Thevenin, Max Power

- Average Score 9.8/25 (39.1%)
- Median Score 8/25
- Applying Our Tools to Less Straightforward Problems An Area for Both Students and Instructors to Work on



# Conclusions/Comments

- Demonstrated Class Competence On Critical Concepts is Extremely Good
- Some Issues for Mutual Effort But No Serious Problems
  - Transistors & Generally Stacking Together 2 or More Key Concepts
- Return Papers to Me If You Have Grading Fairness Issues (by Thursday March 9)
  - May take several days to address to maintain overall consistency
- See Me ASAP If You Have Concerns
  - I cannot predict final grades, but I will give the best advice I can