

CS 3843 Computer Organization

Chapter 3 Summary of Flags

- For `cmp S2, S1`
negative refers to $S_1 - S_2$
greater, less, above, or below refer to comparing S_1 to S_2
- The CF flag is used for unsigned overflow.
- `cmp S2, S1` sets the CF flag if $S_1 - S_2$ is (mathematically) negative or S_1 is below S_2 .
- The OF flag is used for signed overflow.
- The OF flag is set when `sub S2, S1` gives the wrong answer.
- When `sub S2, S1` gives the wrong answer, the SF is incorrect.
- $S_1 - S_2$ is (mathematically) negative is the same as S_1 is less than S_2 .
- If the OF is not set, the SF tells you if S_1 is less than S_2 .
- If the OF is set, the SF gives you the wrong result about S_1 is less than S_2 .
- The correct result about S_1 is less than S_2 is given by $SF \oplus OF$.