**Section 1.2 and 1.3**

**Part One**

* Let
  + m = Juan is a math major
  + c = Juan is a computer science major
* How would we write
  + Juan is a math major but not a computer science major
  + Juan is either a math major or a computer science major
* Let
  + s = stocks are increasing
  + i = interest rates are steady
* How would we write
  + Stocks are declining while interest rates are steady
  + Neither are stocks increasing nor are interest rates steady

**Part Two**

Let

h = John is healthy

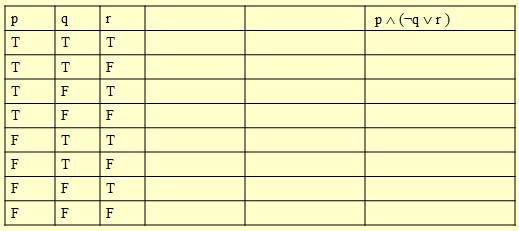
w = John is wealthy

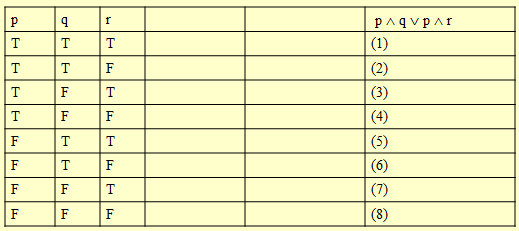
s = John is wise

Write compound propositions representing

1. John is healthy and wealthy but not wise
2. John is not wealthy but he is healthy and wise
3. John is neither healthy, wealthy, nor wise
4. John is neither wealthy nor wise, but he is healthy.
5. John is wealthy, but he is not both healthy and wise.

**Part Three -** Complete the following truth tables





**Part Four - For each of the following sentences identify which part is p and which part is q such that they are in the implication form p → q.**

1. If you study in this course you will get an A.
2. Tomorrow is Friday if today is Thanksgiving.
3. n is prime implies n is odd or n is 2.
4. Tim is Ann’s father is sufficient for Jim being her uncle and Sue being her aunt.
5. n is divisible by 6 only if n is divisible by 2 and n is divisible by 3.
6. P being a rectangle is necessary for P being a square.

**Part Five**

Complete the following truth table.

