3 (6p) List and classify *all* dependencies between the *statements* of the following
         loop nest. Explain and justify each dependence that you list.

```
for (i = 0; i < 128; i++) {
  for (k = 0; k < 128; k++) {
    n = c[i,j,k];
    c[i,j,k] = d[i,k];
    d[i,k] = n;
  }
}
```

Based on your dependence analysis, explain vectorization of the loop.
You may apply any optimization to enhance the vectorization. Remember to explain your solution.

4 (6p) Considering instruction level parallelism, write an essay that is not longer
         than 50 lines.