Tema 1: Introduction

The beginning of semiconductor technology is closely related to a group of eight people that started working together at the "Shockley Semiconductor Laboratory". They soon left this company to move to another one. William Shockley (director of the Shockley Labs) named this group as "The traitorous eight".

Answer the following questions:

1. Why did they quit their job in the Shockley Labs?
2. What other names has this group received?
3. What's the name of the company they moved to?
4. Who was directing this "new" company?
5. Who were these 8 persons? (names)

For each one of these 8 persons:

6. What inventions/discoveries/breakthroughs have led each one of them? Why are they (the inventions) important?
7. In which companies have they worked afterwards?

8. What's the most relevant invention of William Shockley? Were was he working at that time?

Bibliographic references (where have you found the answers?)

It is common among computer scientist to call programming/design errors as "bugs". Grace Hopper was the first one to use this term.

Answer the following questions:

1. When did that happen?
2. What was Grace Hopper implementing at that time?

Since the first Microprocessor (the Intel 4004) the number of transistors per chip has followed Gordon Moore's prediction in 1965. Actually, this projection is now known as Moore's Law –despite it is not formally a law. The trends plotted have been a design goal for semiconductor companies and thanks to research and their efforts this trend is still being followed. If you have a look at http://docencia.ac.upc.edu/FIB/grau/VLSI/ you will find in the Introduction a plot of the evolution of the number of processors in the Intel processor family.

Do the same study for another company. Fill up the table and make the plot comparing to Moore's Law.

AMD
DEC, Digital, Compaq (the same company through the years)
SUN
IBM
HP (although they stopped designing processors in the last couple of years)
Motorola
ARM (StrongArm, XScale)
ATI
NVIDIA

Chose one of the families of processor for the company (i.e. a market segment) and make the study on that specific segment. Many companies have products on different segments (low power, work stations, big servers, etc.) just do one of them.

Processor	Picture of the processor	Transistors count	Technology (CMOS, NMOS, BiCMOS, etc.)	Feature Technology	Frequency	Year

Bibliographic references (where have you found the answers?)