**1**. What is the command used to make a variable available to subshell? What shell variable contains the directory stack? How we may be able to process (access) the related stack contents? How may we kill a Linux process? (**20 points**)

**2**. What is the difference between a gateway and a router? Can a router be a gateway? (**15 points**)

**3**. Using your own words to describe how scp (command) works. Give an example of the following: we need to copy one software folder named packages in your qbc2.loni.org host supercomputer home directory to your local current directory. Assume you are using local Linux terminal. (**15 points**)

**4**. Explain in your own words: what is ar and what is make? May we combine both, i.e. using them jointly in our source code developing? (**15 points**)

**5**. How a Linux kernel support a socket? (**10 points**)

**6**. Why is it better to use su or sudo to become the superuser than to simply log in as "root"?(**10 points**)

**7**. Write a concise C/C++ program to display an error code, using system call error-handling function such as perror() to open a non-existent file named test. If it somehow succeeds, the program closes the file and exits. (**15 points**)