Assignment 4

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1. Write a program to include different types of variables to demonstrate the behaviour of setjmp/longjmp.

Include a public variable

- Include a jmp_buf automatic variable, a static variable and automatic variable in main()
- Invoke a function a() with the argument jmp_buf variable.
- If return values of a() is nonzero, exit.
- Update values of public, static and automatic variables
- Then invoke b() with the argument jmp_buf variable.
- Print values of public, static and automatic variables

- In a(),

- Include a static variable and automatic variable
- setjmp() invocation with argument as received jmp_buf variable.
- Update values of static variable and automatic variable
- Return value of return value of setjmp

- In b(), just invoke longjmp() with received jmp_buf variable and a non zero value.

Describe your observation and understanding.

TODO- Find out why the segmentation fault that occurs when compiled with optimization not occur when compiled without optimization i.e. how the stack frame of a() is retained in the latter case.

2. Print all existing environment variables with their values. Later input a new variable and its value and add to the environment list. Once again print the list.

The last command line argument is to take input the thirs argument for calling setenv (taken as Y or N and then passed 1 or 0 accordingly to setenv). In the actual submission, the initial part of just printing all the environment variables is not shown completely in the first screenshot i.e. only a part of the env var list has been shown. In the second screenshot, name=value has been added at the end of this list as passed in the command line arguments.