Lab5 Activity: Pair *ddd* practice (15min)

We will take a look at how does the computer execute the C program by using the Date Display Debugger (ddd, http://www.gnu.org/software/ddd/), the graphical version of gdb.

Please follow the steps below to start using the ddd tool.

1. Login to the ladera server.

    If you are a window user, please use the computer in the lab and do the following steps to login to the ladera server:
    *   Open PuTTYPortable.exe
    *   Put ladera.eecs.uci.edu as the Host Name
    *   on the left panel, click Connection->SSH->X11
    *   Select Enable X11 forwarding
    *   Click Open

    If You are a mac user, please use "ssh" command to login to the ladera server as usual. Remember to have the "-X" option for "ssh".

2. Make a directory for this practice. Use any name you like.

3. Change current directory to the one your just made.

4. Copy the sample program sum.c by using the following command:
    ladera% cp ~eecs10/samples/sum.c   ./

5. Compile the program with support of debugging by using the following command:
    ladera% gcc sum.c –o sum –Wall –ansi –g

6. Start ddd for with the sum program by using the following command:
    ladera% ddd sum &

7. Set the cursor in the line "int sum = 0;"

8. Click "Break" button to set a break point.

9. Click "Run" button or type "run" in the bottom window of ddd to run the program.

10. Program will stop at line 12 (green arrow point to the "stop" sign)

11. Right click the "**sum**" variable and select "Display sum"
    Right click the "**count**" variable and select "Display count"
    Right click the "**TOTALNUMBERS**" variable and select "Display TOTALNUMBERS"
    Put the display of these three variables next to each other in the top window of ddd.

12. Click "step" and watch where does the green arrow go.
    Observe the value of the displayed variables.

13. Keep clicking "step" to monitor the execution order of the C program until it finishes

14. Run the program again in ddd (the same as step 9)

15. Keep clicking "step" until the value of "**count**" is 7. What is the value of "**sum**" is at that time? What is the value of "**TOTALNUMBERS**"? sum is 21, TOTALNUMBERS is 10.