go to lab do this hw

CIS 620 Sec. 50 Homework 1 Spring 2019

(Due: Jan. 28)

In this warm-up homework, you are asked to use the ddd debugger on Linux to debug the following program (main.c and pie.c) :

acct John Smith => jsmith

ID: $t_1 t_2 l_1 l_2 l_3 l_4 l_5 l_6$

init pwd: csu7digitID l_1

yppasswd : change your passwd

grail/spirit 6 attempts => jail

kick out one day

```
/* file pie.c */
#include <stdio.h>
#include <string.h>

const int N = 100000;
void applepie(char *h,int seed)
{
    char header[24];
    double x,y;
    int i, count=0;
    srand48(seed);
    for(i=0; i<N; i++ ) {
        x= drand48();
        y= drand48();
        if(x*x+y*y < 1) count++;
    }
    strcpy(header,h);
    printf("%s \n applepie = %f\n", header, count / N * 4.0);
}

/* file main.c */

int main(int argc, char **argv)
{   int seed;
    if (argc < 2 ) { printf("need a seed!\n"); }
    else {
        seed = atoi(argv[1]);
        applepie("CIS 620 Homework 1 Spring 2019",seed);
    }
}
```

> mkdir 620

> cd 620

> tar ~cis620s/pub/hw1.tar.gz .

tilde

screenshot

CLT-ALT-T => terminal

Follow the procedure below:

1. Go to FH133E and login a Linux workstation. Type `tar xvfz ~cis620s/pub/hw1.tar.gz` to uncompress and extract files (i.e. main.c pie.c makefile) to your working directory.
2. Type `make` to compile the program. Run the executable file `hw1` along with a seed value (e.g. 23) and check the output result.
3. Invoke the ddd with the executable file `hw1`. Type `list pie.c:1` to list the file pie.c.
4. Set a breakpoint at the `if` statement inside the for loop. Run the program with an input integer value (e.g. 23). Type `info locals` to view the local variables when the breakpoint is reached.

5. Iterating the loop for three times (i.e. type `cont` and then `info locals`). What are the values of `x` and `y`? Are they reasonable?
6. Take a screenshot of the ddd window and save the image to a file.
7. Find and fix the first bug in the source files with ddd. That is, you will get a reasonable value of the variable `count` when the for loop finishes. What is the value of `count`?
8. To find the second bug, set a breakpoint at the `printf` statement. What is the value of `count` before `printf`? Fix the second bug.
9. Find, fix and explain the third bug in the source files.
10. Recompile and then run the correct program with ddd. Take a screenshot of the ddd window and save it to a file.
11. Print the two screenshot files.

Submit the two screenshots with detailed explanations about the bugs you found. The cover page should contain your name, login id, and your photo which must be taken by using the iMac in FH128.