**2. Write a C program to demonstrates the different behavior that can be seen with automatic, global, register, static and volatile variables (Use setjmp() and longjmp() system call).**

#include <setjmp.h>

#include<stdio.h>

#include<stdlib.h>

static void f1(int, int, int, int);

static void f2(void);

static jmp\_buf jmpbuffer;

static int globval;

int main(void)

{

int autoval;

register int regival;

volatile int volaval;

static int statval;

globval = 1; autoval = 2; regival = 3; volaval = 4; statval = 5;

if (setjmp(jmpbuffer) != 0) {

printf("after longjmp:\n");

printf("globval = %d, autoval = %d, regival = %d,"

" volaval = %d, statval = %d\n",

globval, autoval, regival, volaval, statval);

exit(0);

}

/\*

\* \* Change variables after setjmp, but before longjmp.

\* \*/

globval = 95; autoval = 96; regival = 97; volaval = 98;

statval = 99;

f1(autoval, regival, volaval, statval); /\* never returns \*/

exit(0);

}

static void f1(int i, int j, int k, int l)

{

printf("in f1():\n");

printf("globval = %d, autoval = %d, regival = %d," " volaval = %d, statval = %d\n", globval, i, j, k, l);

f2();

}

static void f2(void)

{

longjmp(jmpbuffer, 1);

}