LAB WORKSHEET – 4B

1) Write a test program in two programming languages (one C-base like C/C++/Java and choose another one which you want) and call the function named FUN to determine the scope of the variables below. For each of the four marked points in this function, print the values of the variables in the scope. Assign a=5, b=2, c=15 for definition1, b=13, c=25 d=14 for definition 2, c=50, d=17, e=55 for definition 3.

```
void fun(void) {
  int a, b, c; /* definition 1 */
  ...
  while (...) {
    int b, c, d; /*definition 2 */
    ...  ←——————————— 1
    while (...) {
      int c, d, e; /* definition 3 */
      ...  ←——————— 2
    }
    ...  ←——————————— 3
  }
  ...  ←——————————— 4
}
```

2) Write a program by using the skeletal below in any programming language you want, understand which variables are visible during the execution of the functions. Change the initial values of the variables to see the change.

```
main ()
      int a=10, b=20, c=30;
      print  "a=" a " b=" b " c=" c;
      call fun1();
      call fun2();
      call fun3();
      print  "a=" a " b=" b " c=" c;
..............................................
void fun1(void) {
      int b, c, d;
      print  "b=" b " c=" c " d=" d;
      b=1, c=2, d=3;
      print  "b=" b " c=" c " d=" d;}
void fun2(void) {
      int c=3, d=2, e=9;
      print  "c=" c " d=" d " e=" e; }
void fun3(void) {
      int d=4, e=5, f=6;
      print  "d=" d " e=" e " f=" f; }
```