# Variable Scope and Storage Specifier Assignments

**Mandatory**

1. Refer the code snippet below and answer the queries

int val;

extern void display();

static int function()

{

val++;

int x = 10;

int i = 0;

static int j = 20;

for (; i < 3; i++)

{

int x = 20;

printf(“\n %d”, x+i);

x+=3;

j++;

display();

}

return val;

}

int main(int argc, char \*argv[])

{

val= 0;

function();

return 0;

}

1. What is the change required if val declaration line below is to be moved to an other file?

Ans: when variable is declared locally it will have scope only in that function. I order to use the variable in other file we use extern key word for variable declaration

1. What is the value of x after for loop execution?

Ans: The value of x is 10 after loop execution. Because the x declaration inside the for loop holds the value only in that loop.

1. What does the keyword static in following lines mean?

static int function()

static int j = 20;

Ans: static keyword holds the value of the variable only for the present program. The scope of the variable is only limited from start to end of the program

1. What is the value of j after for loop execution?

Ans: The value of j after the loop execution is 23

1. Identify the variables which would be in the stack of function()

Ans: The variables x, i are in the stack of the function()

1. What does extern in the following line mean?

extern void display();

Ans: when a function is declared using extern keyword it allows us to use the function where the definition is declared in another source file