**Variable Scope and Storage Specifier Assignments**

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?**

A: if the val is declared in another function we use the keyword extern in this file.

Eg: extern int val;

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

A: After the loop execution, x is still 20. Since x is re-declared and initialized inside the loop in each iteration, the final value of x will be 20 at the end of the loop.

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

static int function()

static int j = 20;

A: static function() means it is only accessible in that file only outside that file the function

can’t be called in other files.

Here static int j means variables are defined and is initialized only once, and its value

persists for the lifetime of the program.

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

A: j = 23;

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

A: x,i

1. **What does extern in the following line mean?**

extern void display();

A: The extern keyword means that the display() function is declared but defined elsewhere,

likely in another .c file.