**VARIABLE SCOPE AND STORAGE SPECIFIER**

**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;**

**}**

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

**A:** In this code snippet , val is declared as a global variable without an extern declaration in the file where it is defined. If val declaration need to move to a different file we have to use the extern keyword for accessible to multiple files.

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

**A:** The value of x remains unchanged at 10 after the for loop execution because it is redeclared.

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

**static int function()------**The static keyword makes the function is only visible within the same source file.

**static int j = 20;-------**The variable is only Accessible within the same source file.

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

**A:** After the for loop completes, the value of j is 23.

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

**A:** The variables present in the stack of function() are

1. x---local variable , initialized to 10.
2. i----local variable
3. x---local variable declared inside the loop

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

**extern void display();**

**A: The extern keyword is used to declare the function without defining it in the current file.**