

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;
}
```

- a. 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 need to use extern key word in this file.
For eg: extern int val;
- b. What is the value of x after for loop execution?
A. The value of x after for loop execution is 10. Because inside the for loop the value of x is defined and its scope is the loop. But outside the loop the value of x=10.
- c. What does the keyword static in following lines mean?

```
static int function()
static int j = 20;
```

A. Static function() means the function is accessible only in this file. It cannot be called from other files.

Static int j means the variables are defined and preserved throughout the program

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

A. The value of j is 23 as it is a static variable the changes updated inside the loop also taken

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

A. The variables in stack of function are x and i

f. What does extern in the following line mean?

```
extern void display();
```

A. The word extern means the display function is in another file.