**Video No.:** 82

**Topic Name:** Recursion Problem 03

**Question:**

Consider the C function given below,

```
int f(int j){
        static int i = 50;
        int k;
        if( i == j){
                printf("something");
                k = f(i);
                return 0;
        }
        else {
                return 0;
        }
}
```

Which one of the following is TRUE.

a) the function returns 0 for all values of j
b) the function prints the string "something" for all values of j
c) the function returns 0 when j=50
d) the function will exhaust the runtime stack or run into an infinite loop when j = 50

**Solution:**

If j = 50

If condition is satisfied and the string "something" is printed

Then k calls f(i) = f(50)

Which means j = 50,

This loop will again satisfy the if condition and print the string "something"

This process will go on until the stack memory exhausted and it will go for an infinite loop

So, the answer is **(d)**