Chapter 2

4)

```
int Sum(int start, int end)
{
   if (end == start)
         return start;
   else
   {
         Sum=start + Sum(start+1, end);
   }
}
```

11)

Enter: a= 1, b=7

returnValue = getValue (1, 3, 7)

Enter: a= 1, b=3

returnValue = 3

Leave: a=1, b=3

Leave: a=1, b=7

13)

n=100 displayOctal(100)

DO(100) n=100, n/8=12>0

DO(12) n=12, n/8=1 >0

DO(1) n=1, n/8=0 <0 ➔ output 1

➔ output 12%8=4

➔ output 100%8 = 4

output: 144

15) results when x is passed by value

recurse(5, 3) , 3>0 ➔ x=6, y=2

output: 6 2

recurse(6, 2), 2>0 ➔ x=7, y=1

output: 7 1

recurse(7, 1), 1>0 ➔ x=8, y=0

output: 8 0

recurse(8, 0)

output: 8 0

ouput: 7 1

output: 6 2

results when x is passed by reference

recurse(5, 3) , 3>0 ➔ x=6, y=2

output: 6 2

recurse(6, 2), 2>0 ➔ x=7, y=1

output: 7 1

recurse(7, 1), 1>0 ➔ x=8, y=0

output: 8 0

recurse(8, 0)

output: 8 0

ouput: 8 1
output: 8 2
25)

```
int Acker(int m, int n)
{
        if (m==0)
                return n+1;
        if (n==0)
                return Acker(m-1, 1);

        return   Acker(m-1, Acker(m, n-1));
}
```

```
Acker(1, 2)
return Acker(0, Acker(1, 1))
                return Acker(0, Acker(1, 0))
                                return Acker(0, 1)
                                        return 2
                        return 3
        return 4
```