

Question #58532, Programming & Computer Science / Java | JSP | JSF

3.3 Write a recursive pseudo code algorithm that returns the maximum among the first n elements of an array.

Answer:

```
function max(n[], m){
    if m!=0 && n[m]<max(n,m-1) then return max(n,m-1) else
        return n[m]
}
```

3.4 Write a recursive algorithm that prints all the permutations of the first n characters of a string. For example the call print ("ABC", 3) would print

Answer:

```
procedure permut(s, i){
    if (i==0) {
        print(s+" ");
    } else {
        k=s[i];
        for (int j = 0; j <= i; j++) {
            char[] c=s.toArray();
            c[i]=c[j];
            c[j]=k;
            permut(c.toString,i-1);
        }
    }
}
```

3.5 Implement the algorithms written in part 3.3 and 3.4 in Java Language.

```
public static int max(int[] n, int m){
    if (m!=0&& n[m]<max(n,m-1)) return max(n,m-1); else
        return n[m];
}

public static void permut(String s,int i){
    if (i==0) {
        System.out.print(s+" ");
    } else {
        char k=s.charAt(i);
        for (int j = 0; j <= i; j++) {
            char[] c=s.toCharArray();
            c[i]=c[j];
            c[j]=k;
            permut(s.valueOf(c),i-1);
        }
    }
}
```