Write a program for Min-Max Problem implemented in JAVA

Lab Assignment-4

CSE3002 : Artificial Intelligence

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SCOPE

VIT-AP

Task:

Write a program for Min-Max Problem

Solution:

I have used the DFS algorithm to solve this problem using Java to get the Optimal solution for the given problem.

Below is the source code of the same.

```
import java.util.*;
public class lab4{

    public static void main(String [] args){
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter number of elements");
        int n=sc.nextInt();
        int [] scores=new int[n];
        System.out.println("Enter "+n+" scores");
        for(int i=0;i<n;i++){
            scores[i]=sc.nextInt();
        }
        int h=log2(n);
        int result=minmax(0,0,scores,h,true);
        System.out.println("The solution is "+result);

    }
    public static int log2(int n){
        return n==1? 0 : 1 + log2(n/2);
    }
    public static int minmax(int depth,int currnode,int [] scores,int
height,boolean maxmin){

        if(depth==height){
            return scores[currnode];
        }

        if(maxmin==true){
            return Math.max(minmax(depth+1, currnode*2, scores, height,
false), minmax(depth+1, currnode*2 + 1, scores, height, false));
```

```
        }
        else{
            return Math.min(minmax(depth+1, currnode*2, scores, height,
true), minmax(depth+1, currnode*2 + 1, scores, height, true));
        }
    }
}
```

Output below :