

Code:

```
#include <stdio.h>
```

```
#include <limits.h>
```

```
// Function to find the maximum of two numbers
```

```
int max(int a, int b) {  
    return (a > b) ? a : b;  
}
```

```
// Function to find the minimum of two numbers
```

```
int min(int a, int b) {  
    return (a < b) ? a : b;  
}
```

```
// Minimax function
```

```
int minimax(int depth, int nodeIndex, int isMax, int scores[], int h) {
```

```
    // If we reach the leaf node
```

```
    if (depth == h)  
        return scores[nodeIndex];
```

```
    // If current move is of maximizer
```

```
    if (isMax)  
        return max(  
            minimax(depth + 1, nodeIndex * 2, 0, scores, h),  
            minimax(depth + 1, nodeIndex * 2 + 1, 0, scores, h)  
        );
```

```
    else // Minimizer's move
```

```
        return min(  
            minimax(depth + 1, nodeIndex * 2, 1, scores, h),  
            minimax(depth + 1, nodeIndex * 2 + 1, 1, scores, h)  
        );
```

```
}
```

```
// Function to calculate log base 2
```

```
int log2int(int n) {
```

```
    int r = 0;
```

```
    while (n > 1) {
```

```
        n /= 2;
```

```
        r++;
```

```
    }
```

```
    return r;
```

```
}
```

```
int main() {
```

```
    // Example leaf nodes (scores)
```

```
    int scores[] = {3, 5, 2, 9};
```

```
    int n = sizeof(scores)/sizeof(scores[0]);
```

```
    int h = log2int(n);
```

```
    int result = minimax(0, 0, 1, scores, h);
```

```
    printf("The optimal value is : %d\n", result);
```

```
    return 0;
```

```
}
```

OUTPUT:

The optimal value is : 5