Decision tree (hand-drawn):

- $a_1 < a_2$ — SI: $a_1 < a_2$; NO
  - $a_2 < a_3$ — SI: $a_1 < a_2 < a_3$; NO: $a_3, a_1 < a_2$
    - $a_3 < a_4$ — SI: $a_1 < a_2 < a_3 < a_4$; NO: $a_1 < a_2, a_4, a_3$
      - $a_2 < a_4$ — SI: $a_1 < a_2 < a_3 < a_4$; NO
        - $a_1 < a_4$ — SI: a_1, a_4, a_2, a_3 ; NO: a_4, a_1, a_2, a_3
    - $a_1 < a_3$ — SI: a_4, a_3, a_2 ; NO: $a_3 < a_1 < a_2$
      - $a_4 < a_2$ — SI ; NO
        - $a_3 < a_4$ — SI: a_1, a_3, a_2, a_4 ; NO
          - $a_4 < a_1$ — SI: a_1, a_4, a_3, a_2 ; NO: a_4, a_1, a_3, a_2
      - $a_2 < a_4$ — SI: $a_3 < a_1 < a_2 < a_4$; NO: $a_3 < a_1 < a_4 < a_2$
        - $a_1 < a_4$ — SI: $a_3 < a_1 < a_4 < a_2$; NO
          - $a_3 < a_4$ — SI: a_3, a_4, a_1, a_2 ; NO: a_4, a_3, a_1, a_2

$a_2 < a_1$

$a_2 < a_1 < a_3$

$a_2, a_3 < a_1$

$a_3 < a_1$

$a_3 < a_2$

$a_3 < a_4$

$a_3 < a_2 < a_1$

$a_2 < a_3 < a_1$

$a_2 < a_1 < a_3 < a_4$

$a_1 < a_4$

$a_1 \quad a_4$

$a_1 < a_4$

$a_2 < a_3 < a_1 < a_4$

$a_2 < a_1 < a_4 < a_3$

$a_2 < a_1$

$a_3 < a_2 < a_1 < a_4$

$a_2 < a_4$

$a_3 \quad a_4$

$a_2 < a_4 < a_1 < a_3$

a_3, a_2, a_4, a_1

$a_2 < a_3, a_4, a_1$

$a_2 \quad a_1$

$a_4 < a_2 <$

$a_3 \quad a_4$

$a_2 < a_4 < a_3, a_1$

$a_1 < a_3$

$a_4 < a_2 < a_3 < a_1$

$a_3, a_4, a_2, a_1 \qquad a_4, a_3, a_2, a_1$

Avance arbol de decisiones:

```python
def ordenCuatro(a1,a2,a3,a4):
    if (a1<a2):
        if(a2<a3):
            if(a3<a4):
                return (a1,a2,a3,a4)
            else:
                if(a2<a4):
                    return (a1,a2,a4,a3)
                else:
                    if(a1<a4):
                        return (a1,a4,a2,a3)
                    else:
                        return (a4,a1,a2,a3)
        else:
            if(a1<a3):
                if(a4<a2):
                    if(a3<a4):
                        return (a1,a3,a4,a2)
```

```python
            else:
                if(a1<a4):
                    return (a1,a4,a3,a2)
                else:
                    return(a4,a1,a3,a2)
            else:
                return(a1,a3,a2,a4)
        else:
            if(a2<a4):
                return (a3<a1,a2,a4)
            else:
                if(a1<a4):
                    return(a3,a1,a4,a2)
                else:
                    if(a3<a4):
                        return (a3,a4,a1,a2)
                    else:
                        return (a4,a3,a1,a2)
        else:
```

```python
if(a3<a1):
    if(a3<a2):
        if(a1<a4):
            return (a3,a2,a1,a4)
        else:
            if(a2<a4):
                return (a3,a2,a4,a1)
            else:
                if(a3<a4):
                    return (a3,a4,a2,a1)
                else:
                    return(a4,a3,a2,a1)
    else:
        if(a1<a4):
            return(a2,a3,a1,a4)
        else:
            if(a3<a4):
                return(a2,a3,a4,a1)
            else:
```

```python
            if(a2<a4):
                return(a2,a4,a3,a1)
            else:
                return(a4,a2,a3,a1)
    else:
        if(a3<a4):
            return(a2,a1,a3,a4)
        else:
            if(a1<a4):
                return(a2,a1,a4,a3)
            else:
                if(a2<a4):
                    return(a2,a4,a1,a3)
                else:
                    return(a4,a2,a1,a3)
print(ordenCuatro(7,5,6,3))
print(ordenCuatro(3,8,4,2))
print(ordenCuatro(10,7,12,14))
print(ordenCuatro(3,0,1,1))
```

```
print(ordenCuatro(9,6,7,4))

print(ordenCuatro(4,3,2,1))
```