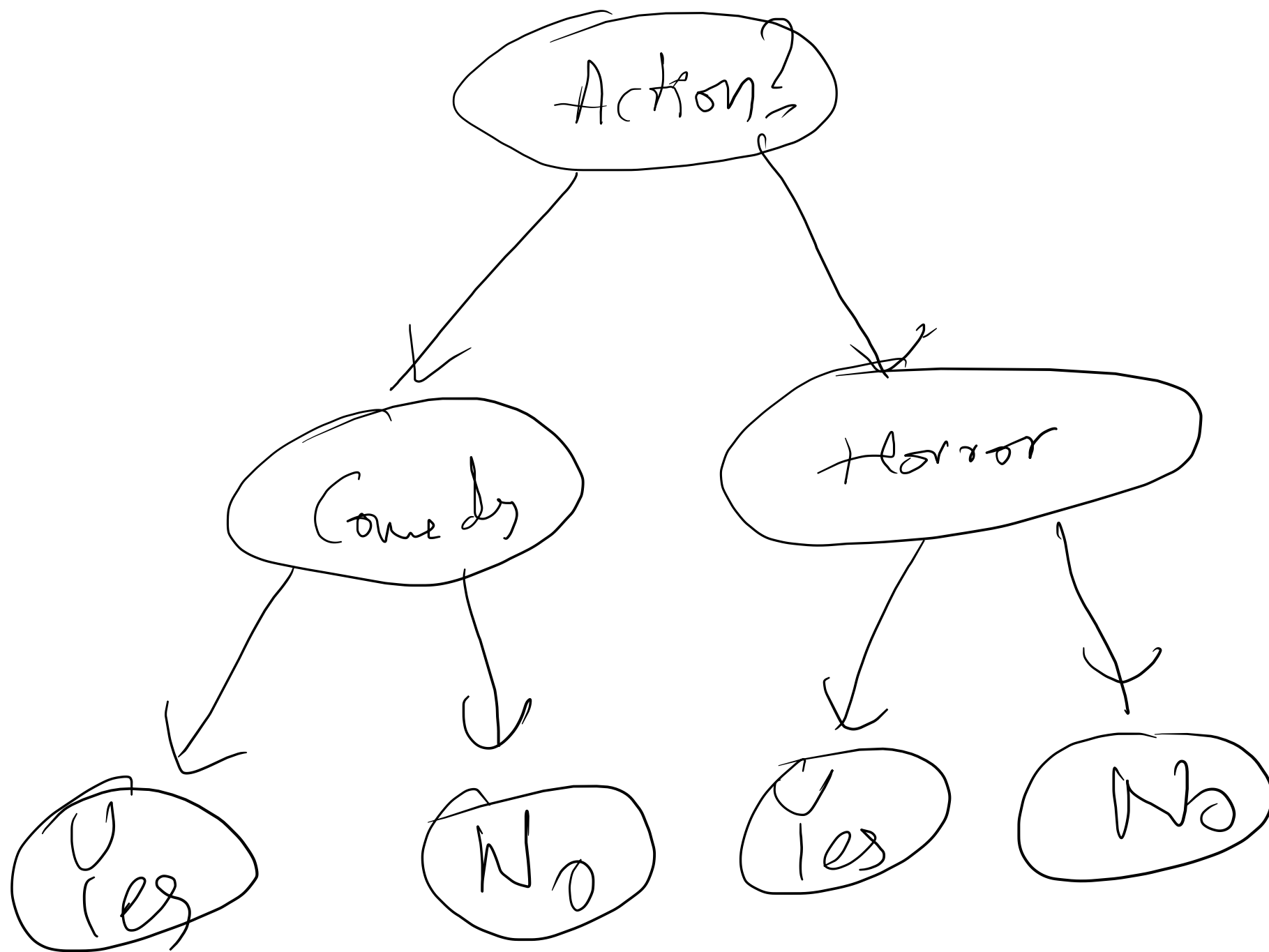
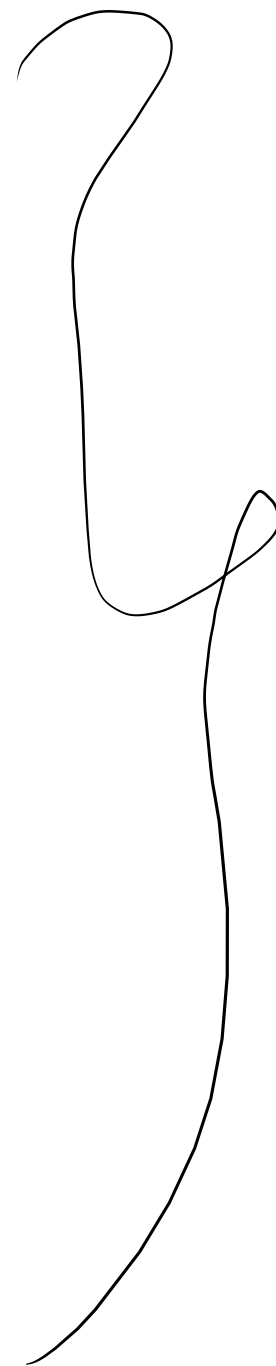
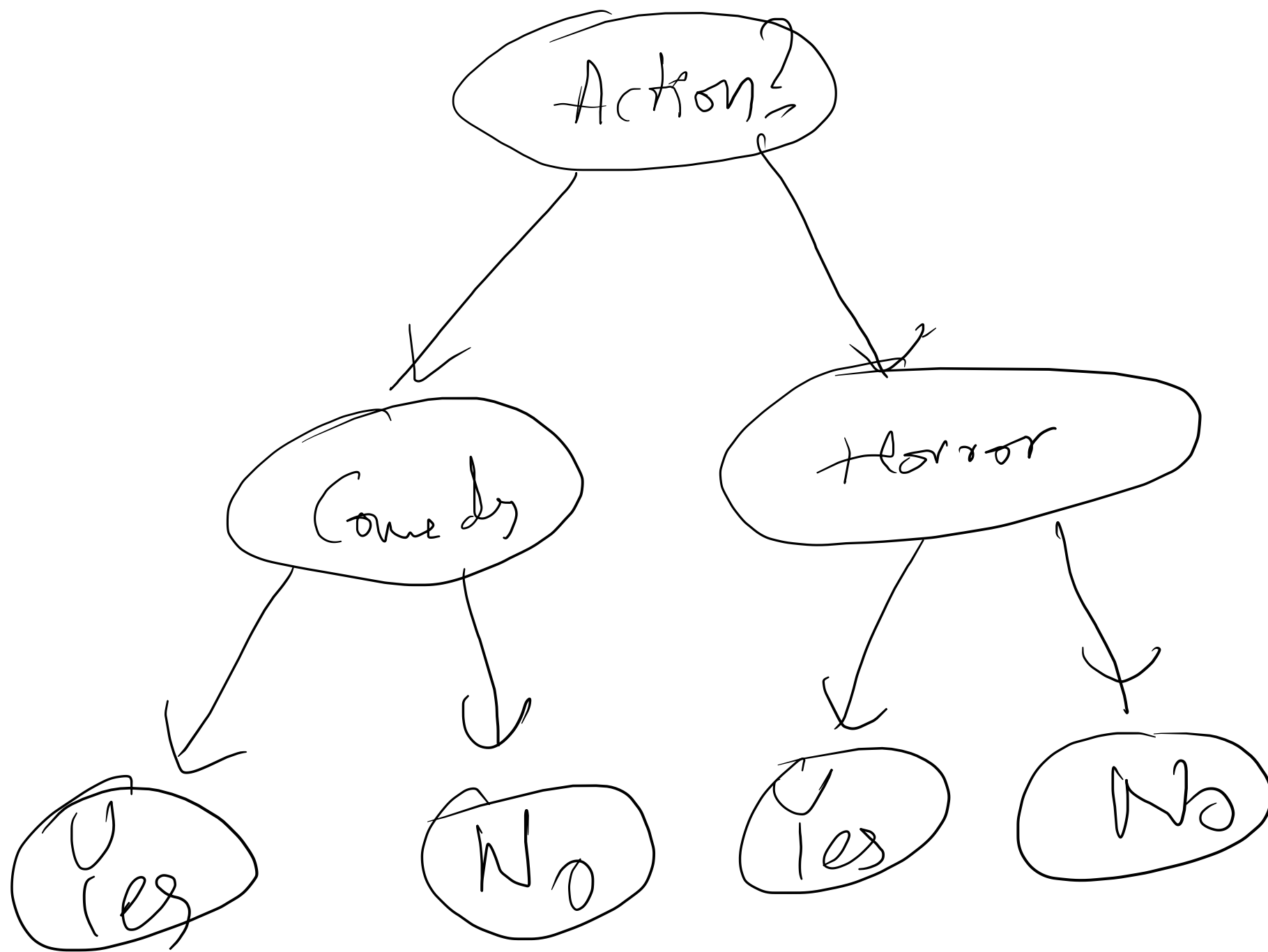


Decision Trees

Conditions.
Attributes





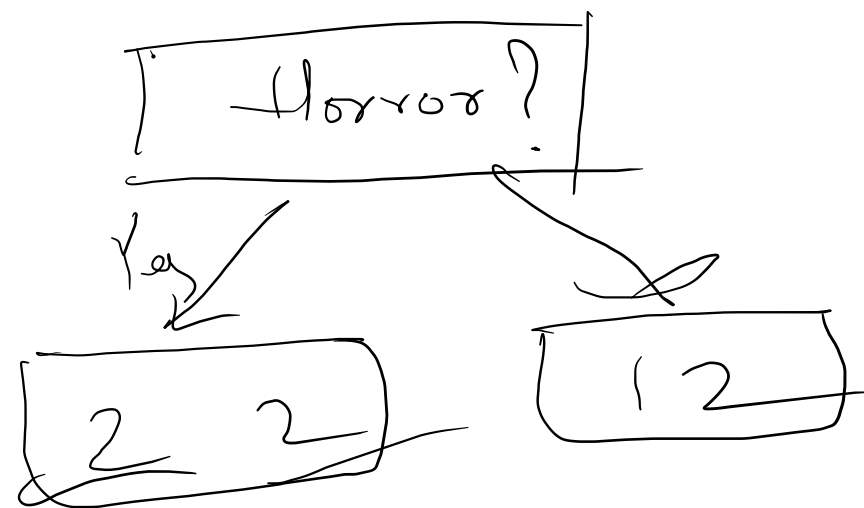
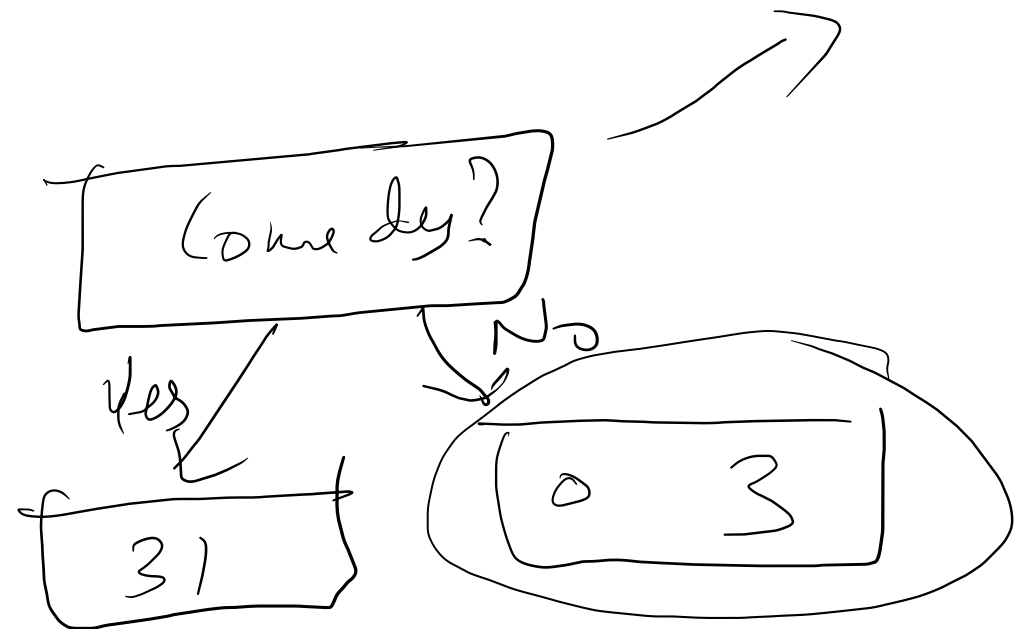
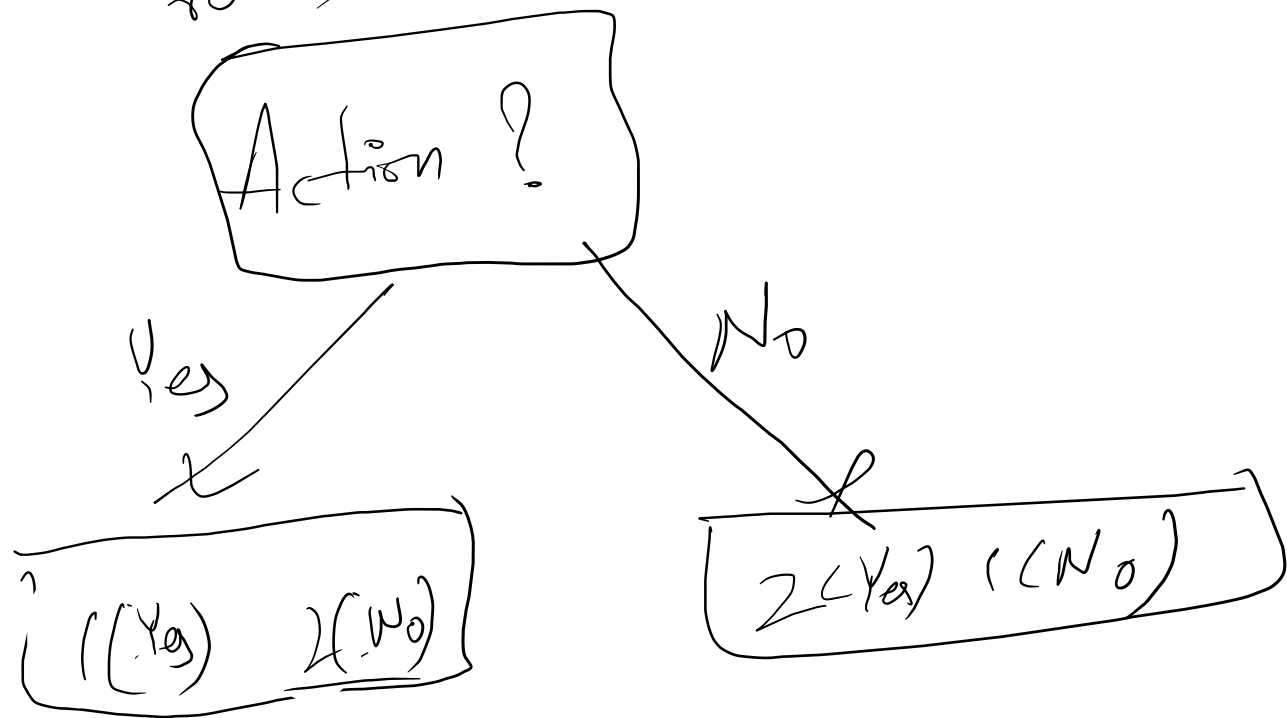


Action	Comedy	Horror	Movie "A"
1	1	1	0
1	0	1	0
0	1	1	1
0	1	0	1
1	1	1	1
1	0	0	0
0	0	0	0

1 → like.

0 → dislike.

How do we decide the root node?



Information Gain

↓
Entropy ↓ ↓

$$I.G.(S, A) = H(S) - \sum_{i \in \text{Childs}} w_i H(C_i)$$

$$\text{Entropy} :- \sum_{i=1}^n P_i \log P_i$$

→ Greedy Approach.

→ We don't change the prev. splits
based on the current decision.

→ As we progress down the tree
the impurity decreases.