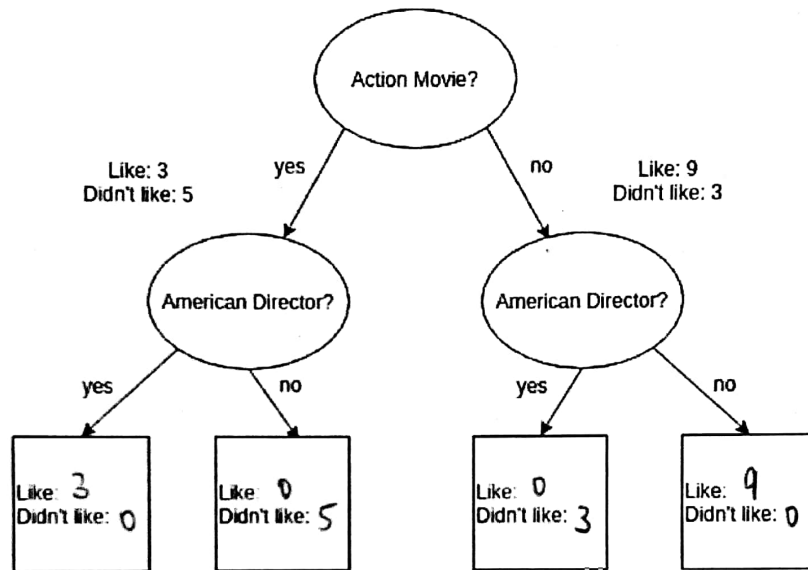


3. [4 Points] We now focus on all samples assigned to the left side of the tree (i.e. those that are longer than 120 minutes). We know that we have a binary feature, 'American director' that after the 'Action movie' split provides a perfect split for the data (i.e. all samples on one side are 'like' and all those on the other side 'didn't like'). Fill in the missing values in the picture below (there are multiple correct answers, just choose one):



American Director perfect split, but can only has 16 lower than Action Movie, so can't be all "like" or "Didn't like" for both (0.1024)
American Director = Yes.

The answer should be either (A) or (B) below, and the $IG(\text{like}|\text{AD})$ for both are the same!
 $\cong 0.0128$

