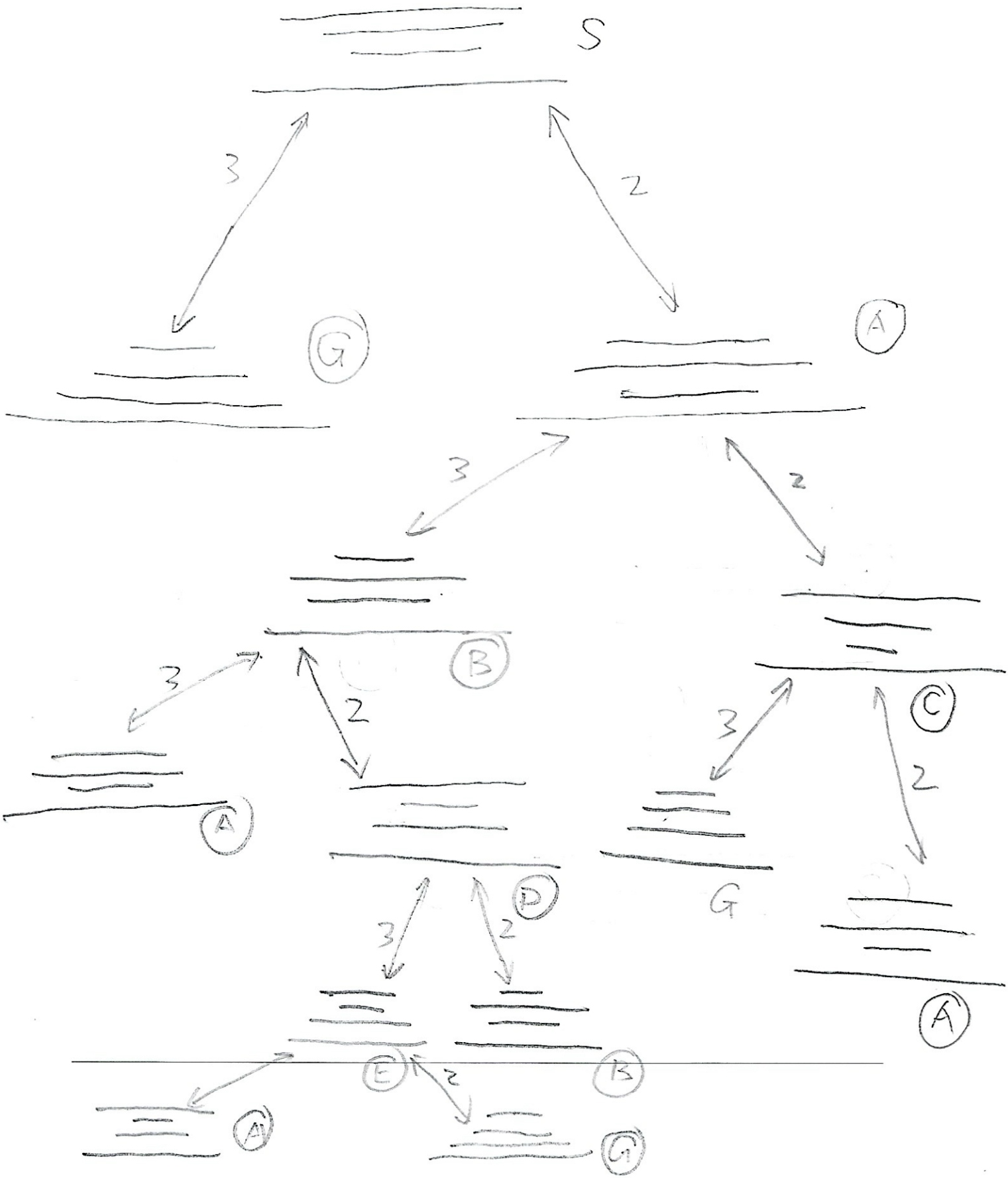
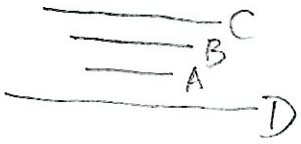
Draw out the (partial) state space graph for this problem instance, including the action costs as weights on the graph.



Part B

Now, if we plan to use our informed search algorithms, we will first need to craft a heuristic function. Think of a good way to estimate how close a given state is to the goal.

Create a 2-column table to represent your heuristic function for the 4-pancake version of the problem. In one column, refer to the state (use your graph from part A), while the other column should hold the heuristic value for that state. Try to make this heuristic admissible and consistent.



State	Heuristic Value
S	3
A	2
B	3
C	1
D	2
E	3
G	0

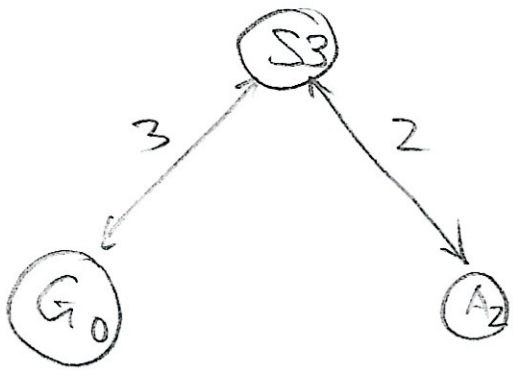
it is consistent b/c the heuristic value of the previous node is less than or equal to the current node's heuristic + actual path cost from the initial state (node) to the current node

it is admissible is the heuristic of every node is <= actual cost from initial node to that node

Part C

With a heuristic in place, let's use our informed search algorithms to find a solution.

Apply the greedy best-first search algorithm to find a solution. Draw out the search tree to show this. What is the solution that GBFS will return? What is the total path cost of that solution?

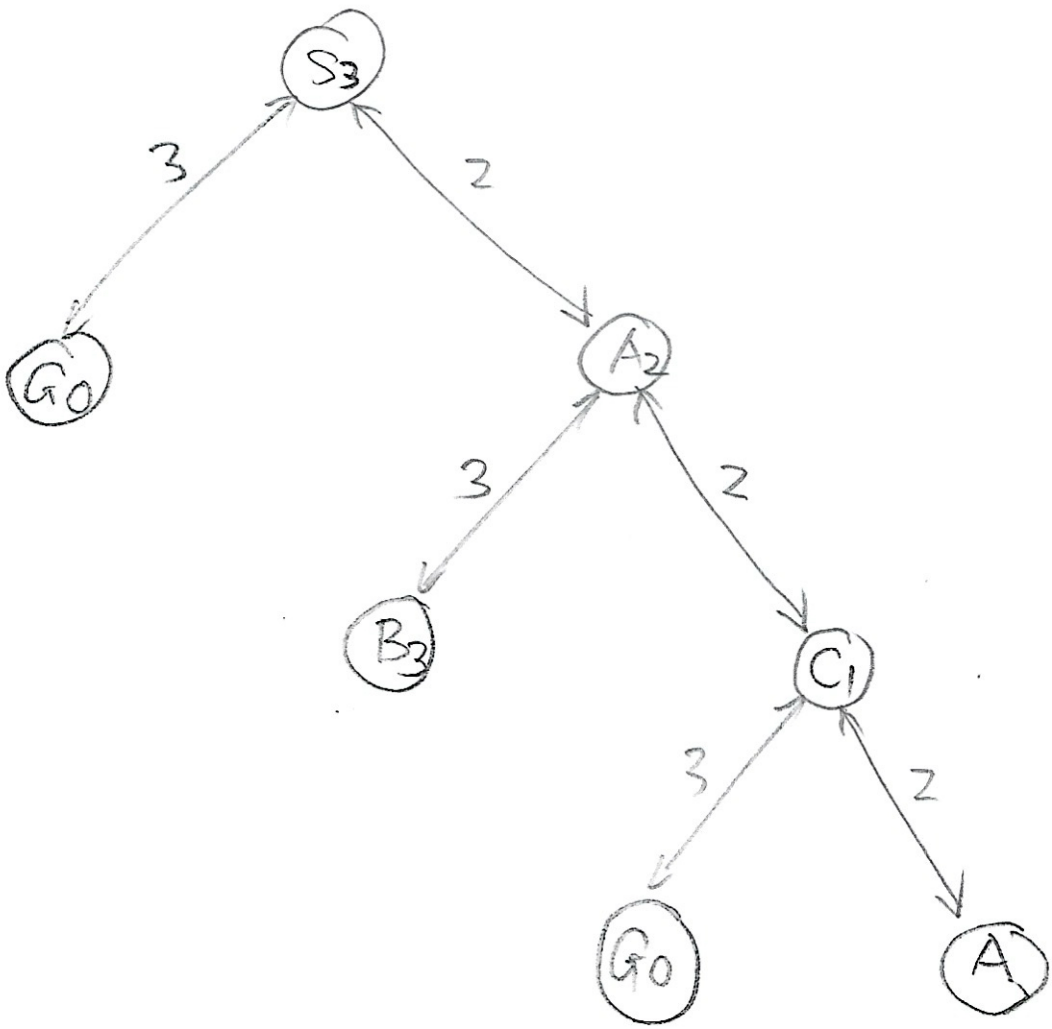


Total path cost is 3

from S → G

Part D

Apply the A* search algorithm to find a solution. Draw out the search tree to show this. What is the solution that A* will return? What is the total path cost of that solution?



Total path cost is 3