2007 Paper 3 Question 8

Artificial Intelligence I

We have a basic search problem, consisting of a set S of states, a start state s_0, a goal test $G(s)$ that returns True if $s \in S$ is a goal and False otherwise, and a function $\exp(s)$ that returns the set of states obtained by expanding state s.

(a) Describe in detail the *Graph Search* algorithm for solving a problem of this type. How does it differ from the related *Tree Search* algorithm? [8 marks]

(b) Give a detailed description of the *Recursive Best First* search algorithm, and explain why it might be used in preference to the $A^\star$ algorithm. [12 marks]