$\overline{\textbf{Algorithm 1}: B_F2E_Abstraction(init, goal, H) \rightarrow optimalSolutionCost}$

```
 \begin{array}{l} \textbf{if} \ \text{already solved then} \\ return(0) \\ \textbf{end if} \\ nodes \leftarrow (init, Fw, 0, open), (goal, Bw, 0, open) \\ gLim(Bw) \leftarrow gLim(Fw) \leftarrow 0 \\ incrementedDir \leftarrow Bw \\ \textbf{for} \ gSum \ from \ 1 \ up \ by \ 1 \ until \ unsolvable \ \textbf{do} \\ incrementedDir == opposite(incrementedDir) + 1 \\ \textbf{if} \ \exp \text{andLevel(nodes,gLim(),gSum,H)} \ \textbf{then} \\ return(gSum) \\ \textbf{end if} \\ \textbf{end for} \end{array}
```