Algorithm 6 : phase_3_abs(nodes list, opposite open list, dir)

for node in nodes list **do**

    expandablelist.push(node)

end for

while $expandablelist \neq \{\}$ **do**

    $node = Pop(expandablelist)$

    $node \rightarrow' closed'$

    for $neighbour\ in\ expand(node)$ **do**

        $child = Node(neighbour, dir, g + 1,' open')$

        if already exist in nodes list **then**

            return True

        end if

        $nodes\ list.push(child)$

        check for duplicates and replace if child gvalue is smaller

    end for

    $nodes\ list.push(child)//if\ child\ does\ not\ already\ exist\ in\ nodes\ list$

end while