AI Lab - Alpha Beta Pruning

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In [1]:

```python
MAX=1000
MIN=-1000
```

In [6]:

```python
def minimax(depth,nodeIndex,maximizingPlayer,values,alpha,beta):
    if depth==3:
        return values[nodeIndex]
    if maximizingPlayer:
        best=MIN
        for i in range(0,2):
            val=minimax(depth+1,nodeIndex*2+i,False,values,alpha,beta)
            best=max(best,val)
            alpha=max(alpha,best)
            if beta<=alpha:
                break
        return best
    else:
        best=MAX
        for i in range(0,2):
            val=minimax(depth+1,nodeIndex*2+i,True,values,alpha,beta)
            best=min(best,val)
            beta=min(beta,best)
            if beta<=alpha:
                break
        return best
```

In [7]:

```python
if __name__=='__main__':
    values=[3,5,6,9,1,2,0,-1]
    print("The optimal value is: ",minimax(0,0,True,values,MIN,MAX))
```

The optimal value is: 5