(2b) Rod cutting problem is defined as finding the maximum revenue that can be achieved by cutting the rod and selling the pieces. The output of the rod cutting problem is the way of cutting rod into pieces that achieves the maximum revenue.
>The Greedy Strategy is applied to find solution of rod cutting problem. The greedy strategy finds a solution for the problem one selecting the optimal option in each stage (i.e in the current situation)
>Therefore, to solve the rod cutting problem greedy strategy can be used to find the way of cutting pieces that maximizes the revenue.

Proving the greedy strategy does not always produce an optimal solution.
The given greedy strategy selects the length of the first piece i(1<=i<=n) that has maximum destiny first. Then it selects the length of the next piece that has maximum destiny in the remaining piece of length n-i.
This strategy does not always produce an optimal solution. To show this, consider the following example of rod of length 4, pricing table and destiny table:

Length(n)	1	2	3	4
Price(Pi)	2	20	36	32
Destiny(Pi/i)	2	10	12	8

In the above example of rod cutting, length of rod is 4 . Before applying the greedy strategy, sort the above table by the destiny (pi/i).

Length(n)	1	4	2	3
Price(Pi)	2	32	20	36
Destiny	2	8	10	12

Now apply the greedy strategy to select the rod length. The greedy strategy initially selects the length of the rod (i) as 3, as the rod of length 3 has the maximum destiny and the revenue of 36 .Then the strategy selects the rod of length 1. Therefore total revenue (Rg) for this greedy selection is calculated as follows.
Rg=P3+p1
=33+2
=35
But the selection (3,1) is not an optimal solution, because there is another choice that gives maximum revenue. Thus, the optimal solution is as follows:
R=P2+P2
=20+20
=40
Therefore , the given strategy that selects the length of the rod piece according to destiny does not always gives the optimal solution.