If provided with the following array of numbers and you applied the selection sort approach. How many swaps must occur before the array is sorted? [9, 2, 4, 8, 7, 90]

In this case 3 swaps occur to sort the array.

If you have a data set and decide to use the linear search approach to locate an element, which of the below is accurate?

Within the array of elements, the linear search will search from the start of the index until an appropriate element is found.
The linear search will search from the start of the index until an appropriate element is found, or there are no more elements to check.

Which of the following options are benefits of the divide and conquer paradigm? Select all that apply:

Parallelization. Parallelism is when you have different threads or computers working on the same problem at the same time to complete it in a quicker time.

In the following code, what is the base case?

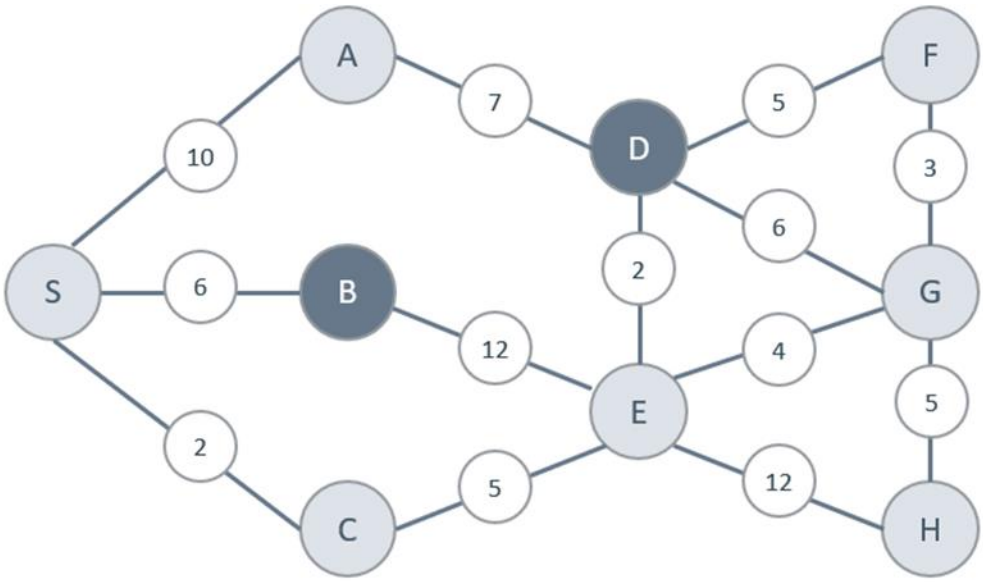
```
def fibonacci(number)
    if number < 2
        number
    else
        fibonacci(number – 1) + fibonacci(number – 2)
    end
end
```

When the number < 2. That will cause the termination of the loop.

Which of the steps are included in the dynamic programming process? Select all that apply:

Describe the optimum outcome. When computing dynamic programming solutions, one must first determine the objective function. That is the description of what the optimum outcome is to be.
Break the problem into smaller steps. Breaking the problem into smaller steps can allow recursions to take place. That is when functions call themselves repeatedly until a solution is reached.

Using the greedy algorithm, which route will be taken to move from node B - D ? Select the correct option.



B – S – C – E – D
That will be the route with the current most rewarding solution at each juncture. This approach only considers the next best choice.