

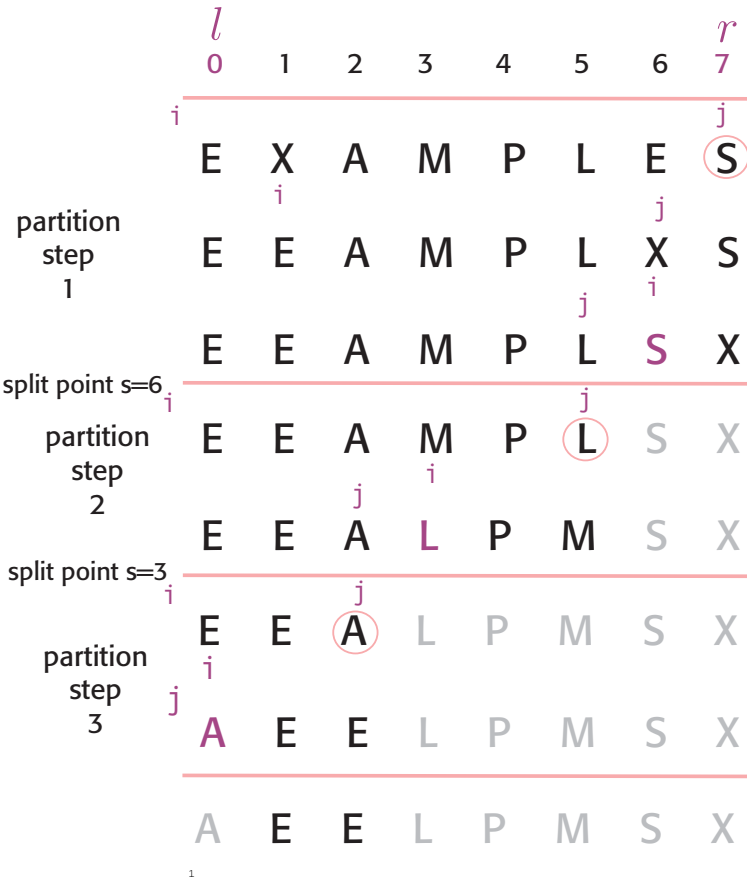
Quicksort Example

Right Pivot

partition

```
p ← a[r]  i ← l - 1  j ← r
loop
  while a[++ i] < p do
  while a[-- j] > p do
  if i ≥ j then break
  swap a[i], a[j]
swap a[i], a[r]  // i is split point s
```

total 5 partitions,
3 shown



Q25 The choice of pivot does not affect algorithm correctness or efficiency. A better pivot selection however can improve the run time. Check the discussion in your textbook for details.

Right pivot answer

Step	Pivot	Input List	Result
1	S	EXAMPLES	EEAMPLSX
2	L	EEAMPL	EEALPMSX
3	A	EEA	AEELPMSX
4	E	EE	AEELPMSX
5	M	PM	AEELMPSX

Left pivot answer

Step	Pivot	Input List	Result
1	E	EXAMPLES	AEEMPLXS
2	A	AE	AEEMPLXS
3	M	MPLXS	AEELMPXS
4	P	PXS	AEELMPXS
5	X	XS	AEELMPSX