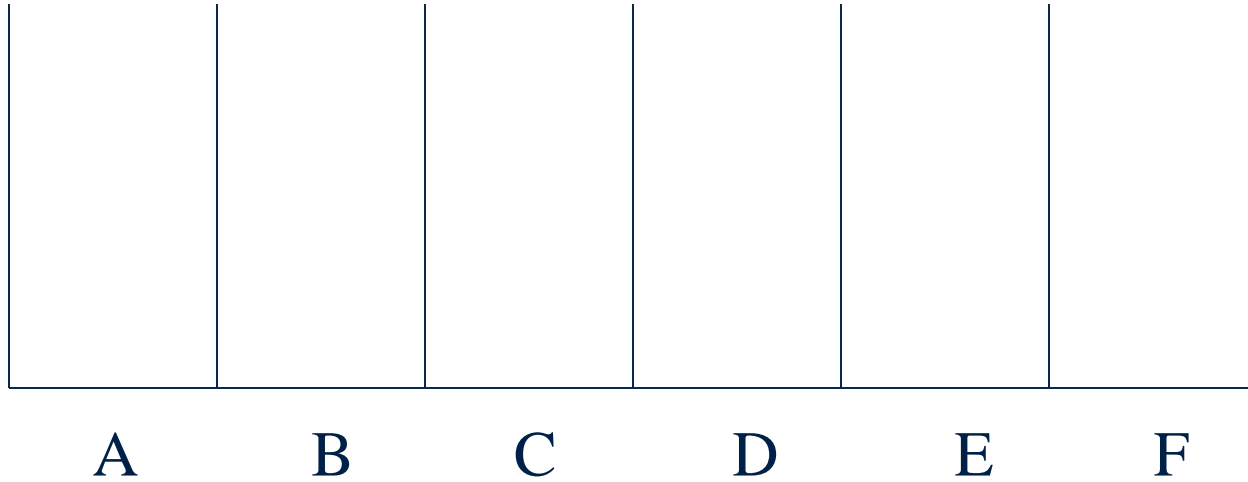


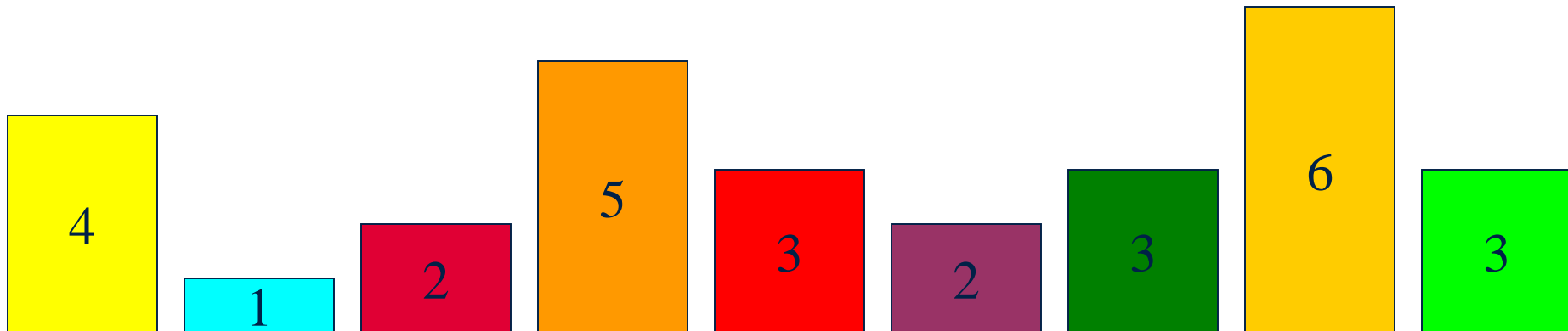


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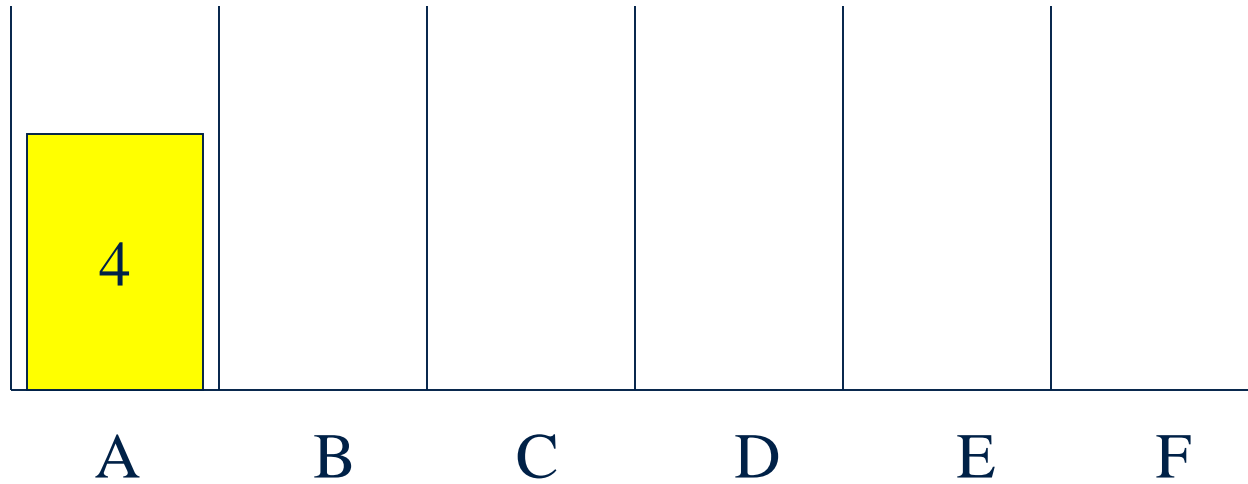
# Bin packing – First fit algorithm



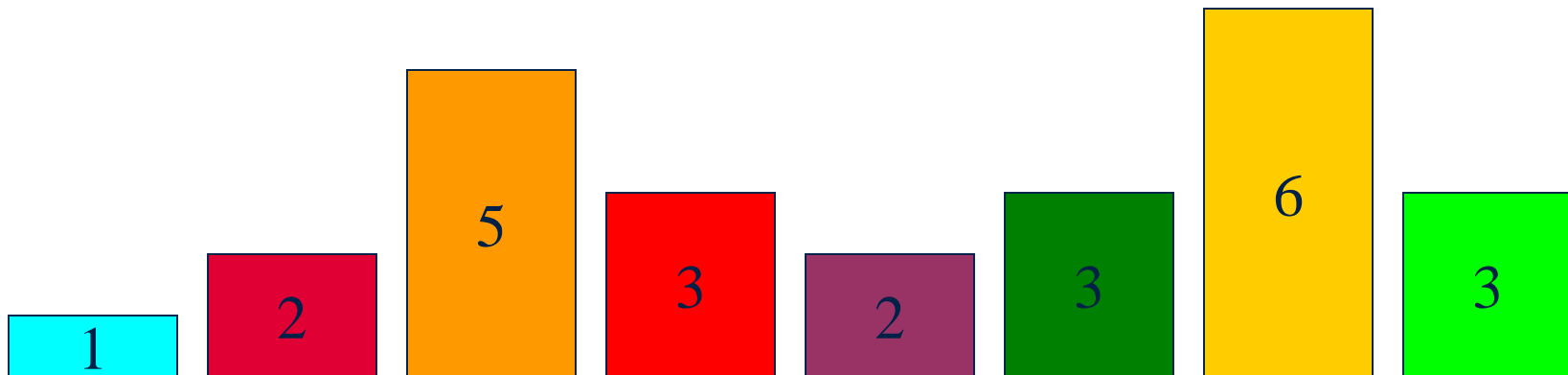
**Each block will be fitted into the first bin that has room for it.**



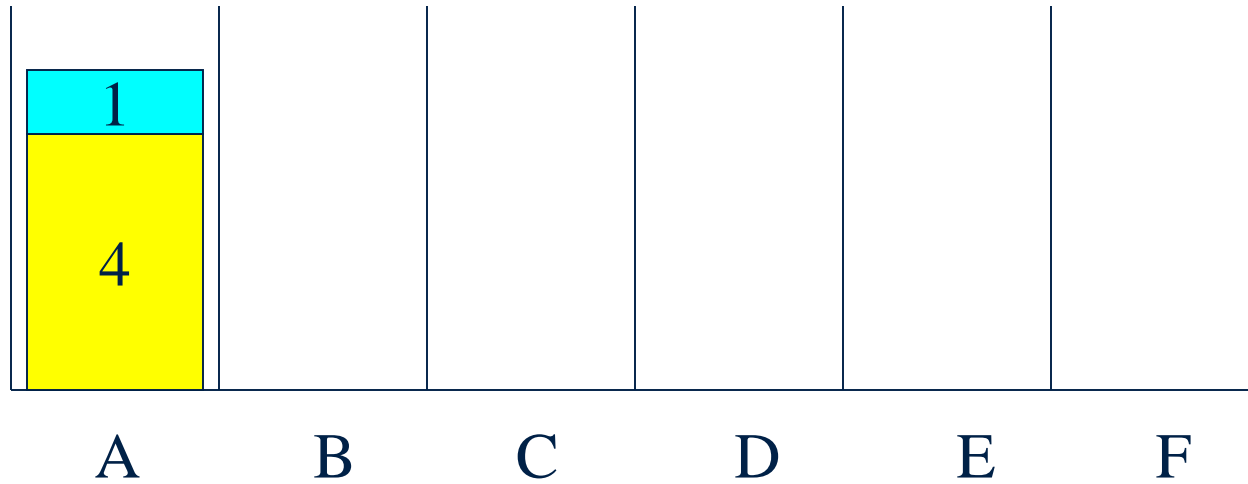
# Bin packing – First fit algorithm



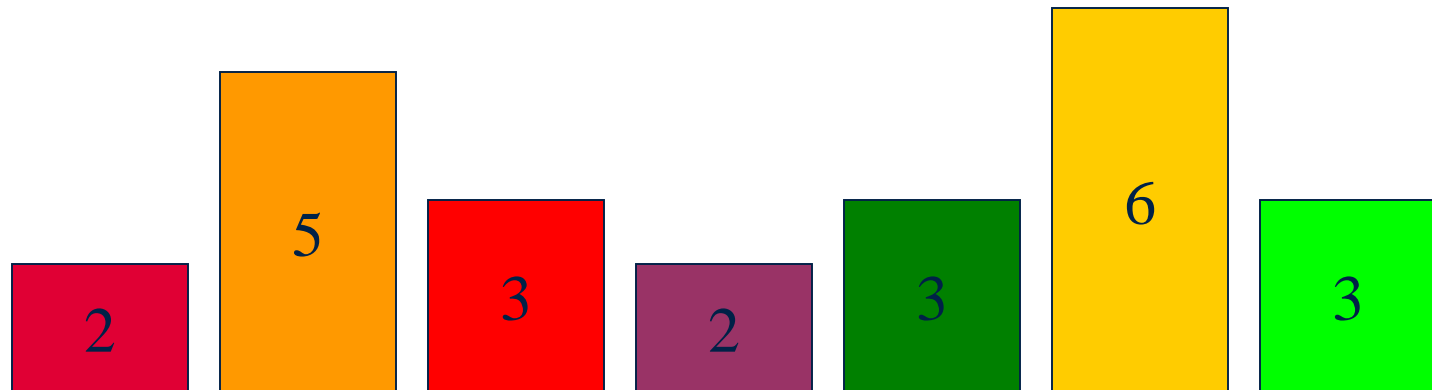
**The first block fits into the first bin**



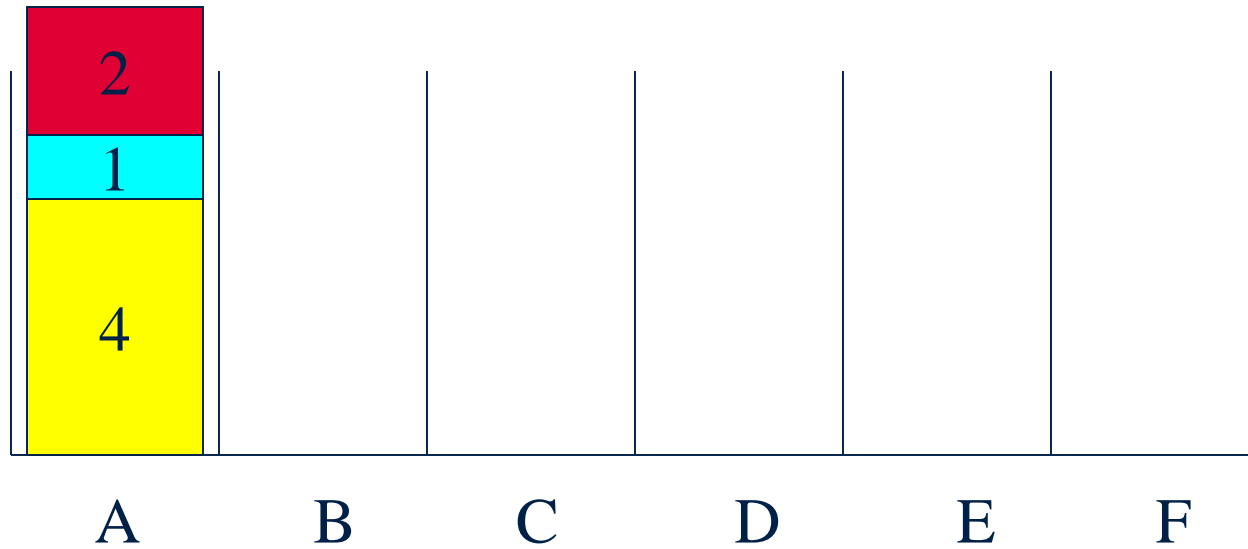
# Bin packing – First fit algorithm



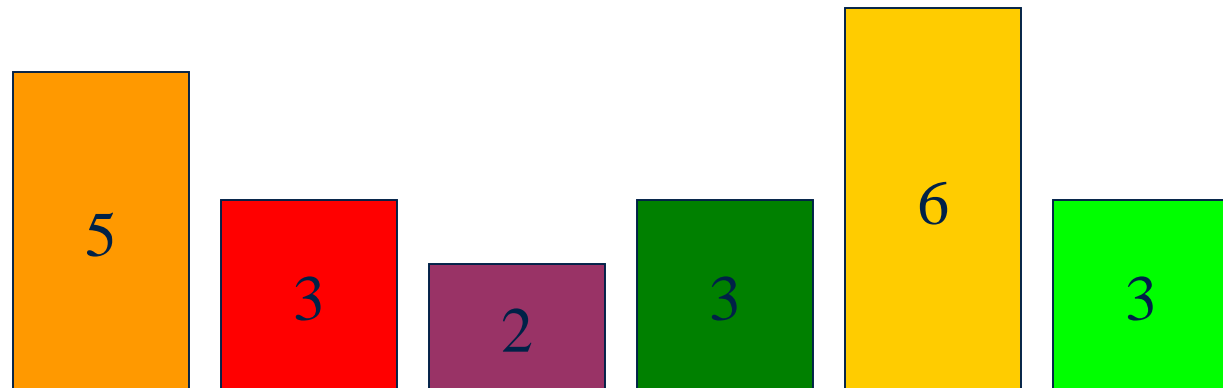
The second block fits in the first bin



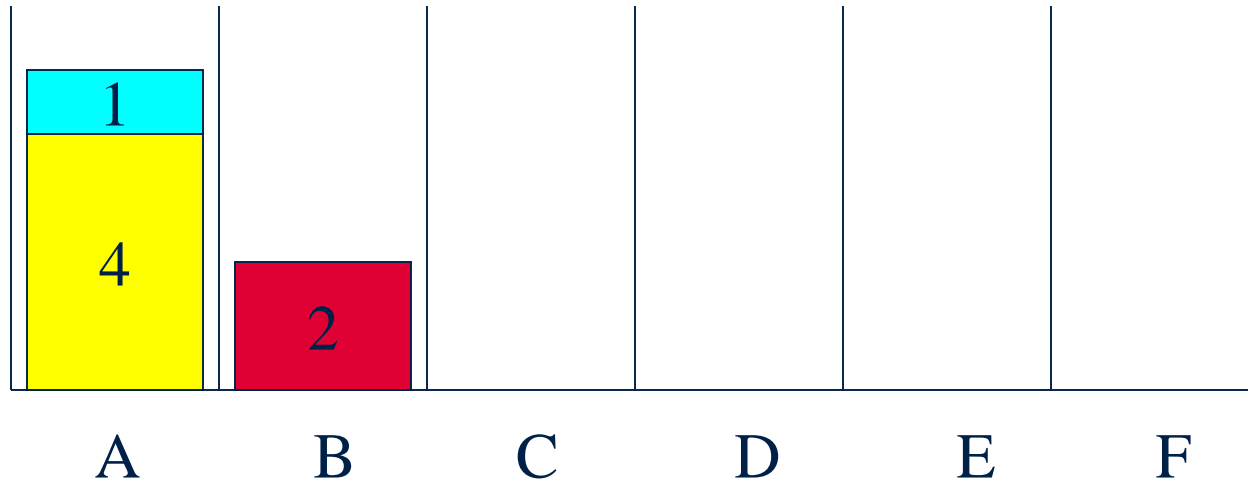
# Bin packing – First fit algorithm



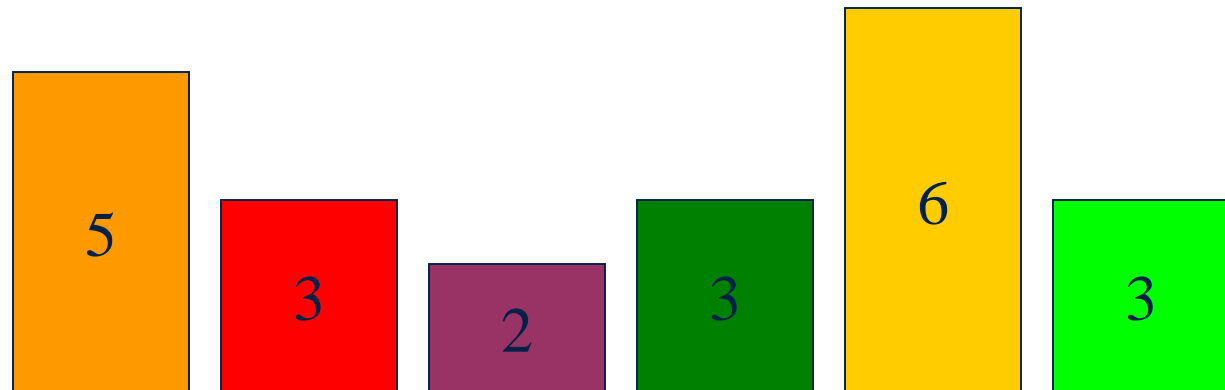
**The third block will not fit in the first bin**



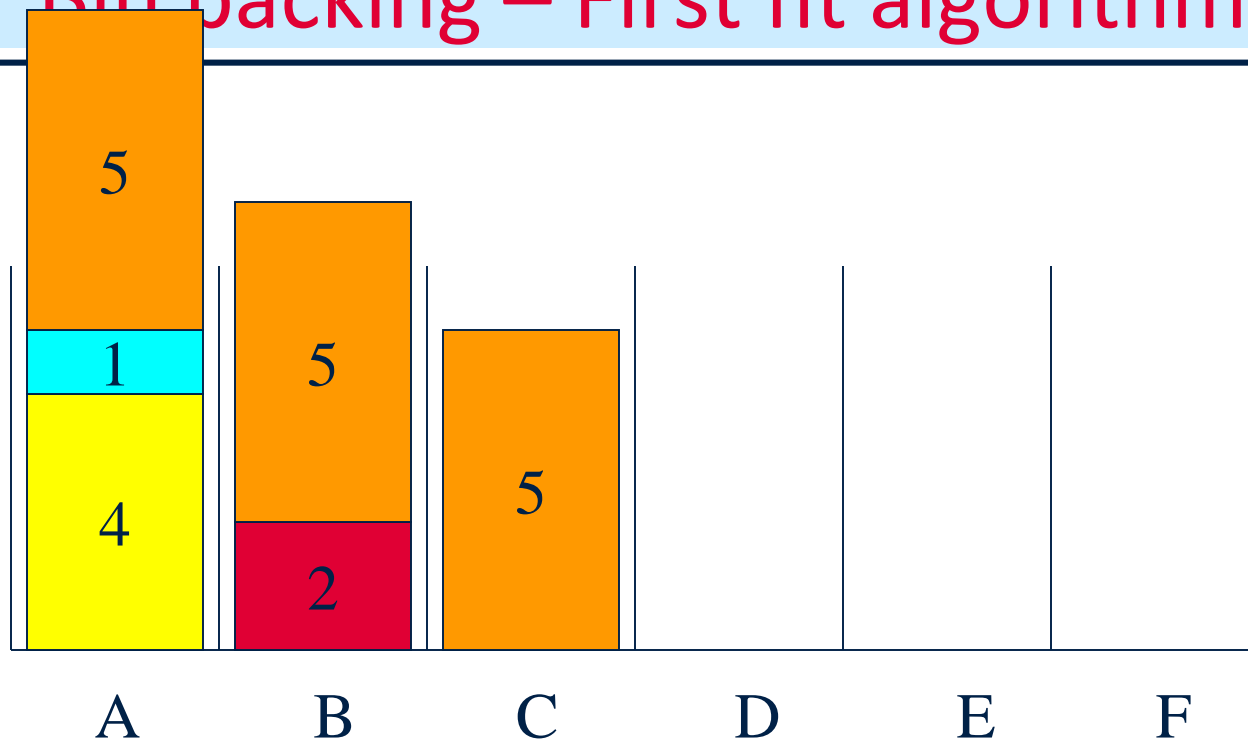
# Bin packing – First fit algorithm



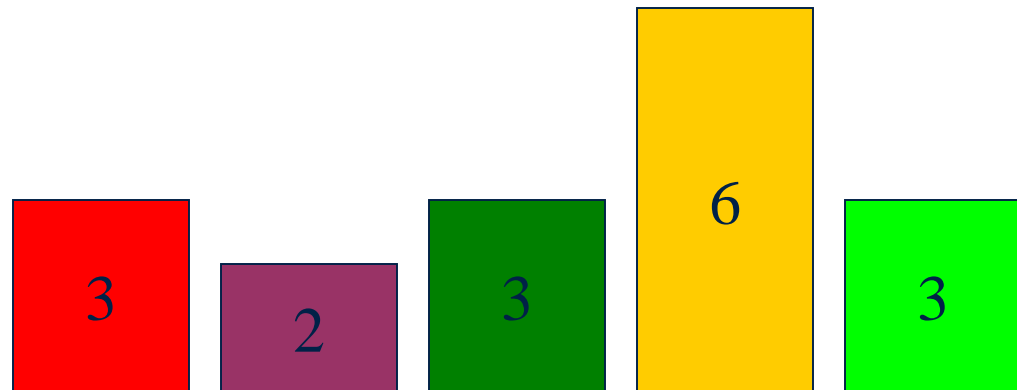
**But there is room in the second bin**



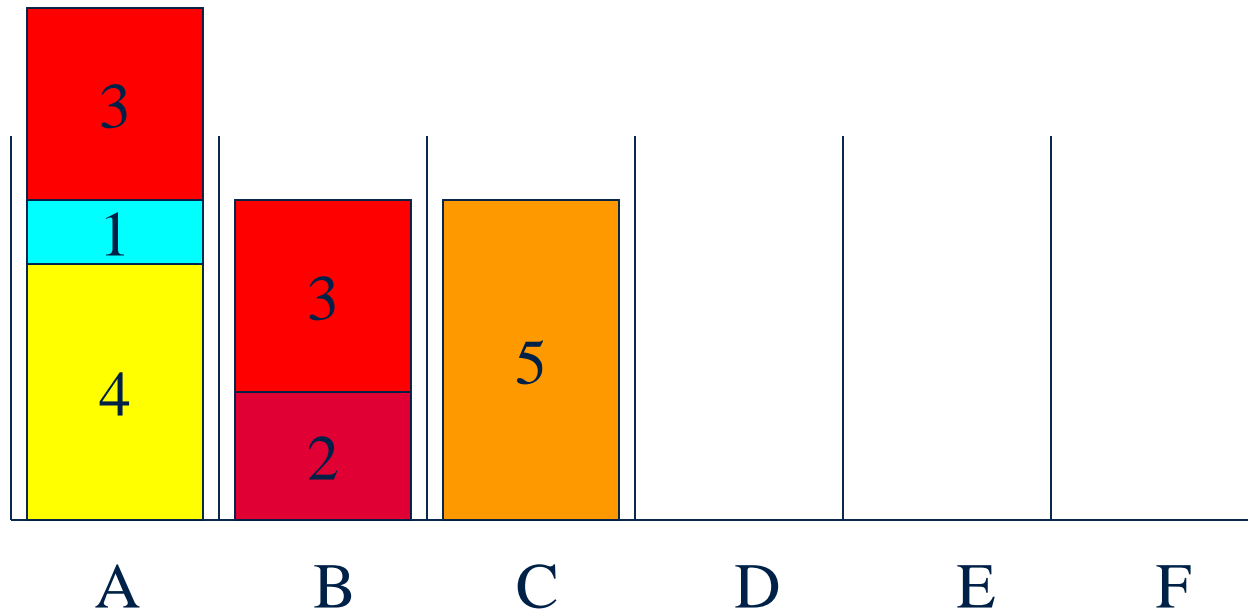
# Bin packing – First fit algorithm



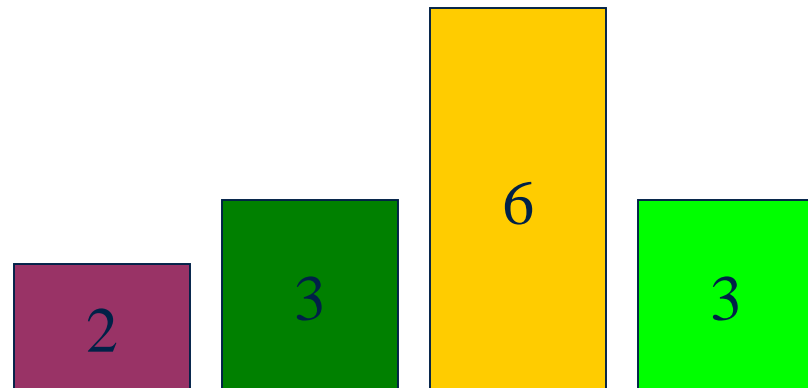
**The third bin is the first one the 5 will fit in**



# Bin packing – First fit algorithm

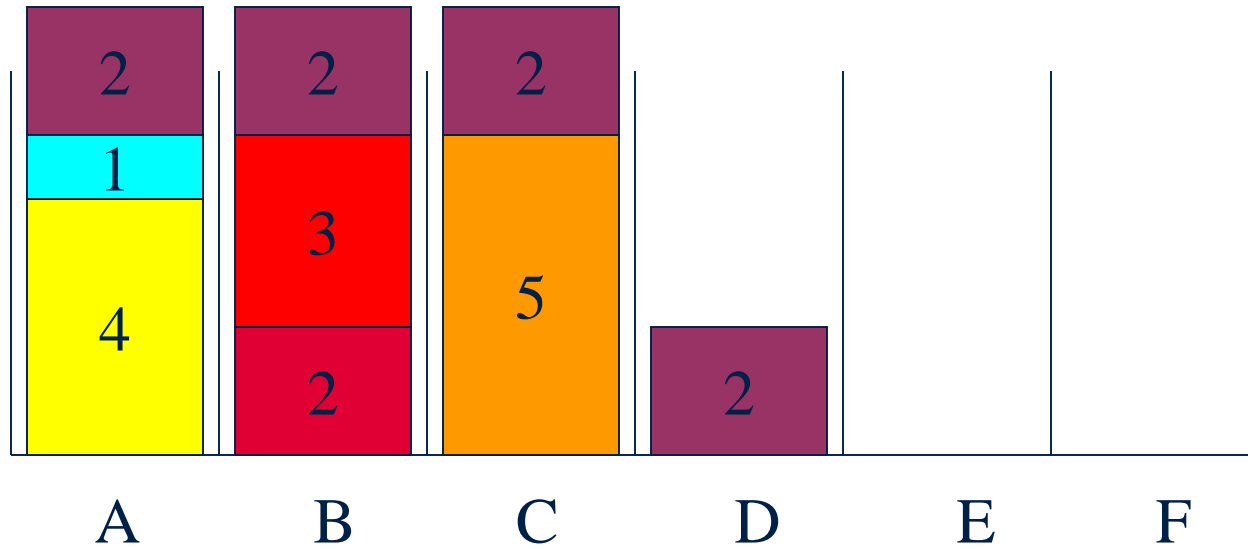


The second bin has room for the 3

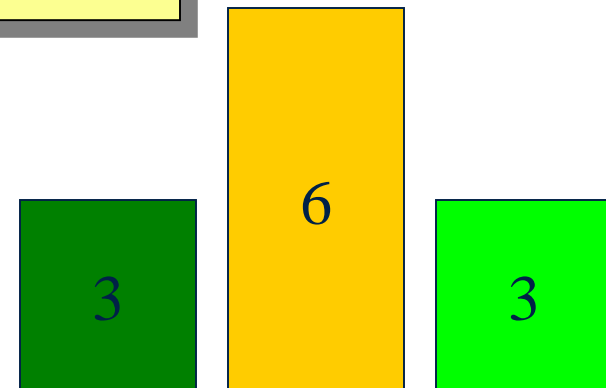




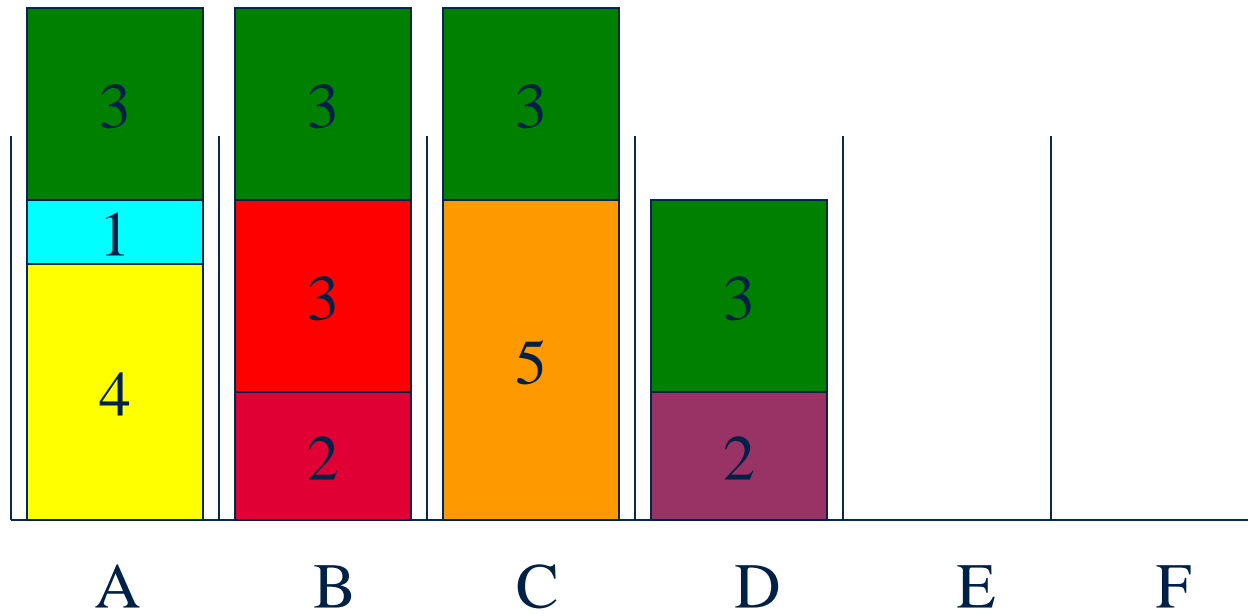
# Bin packing – First fit algorithm



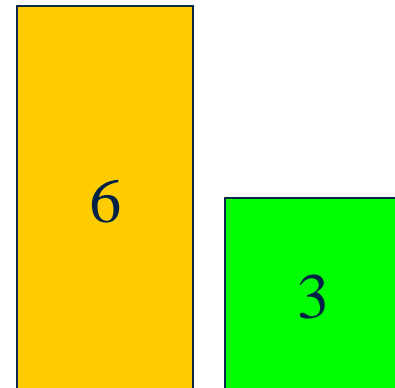
The fourth bin is the first one with room for the next one



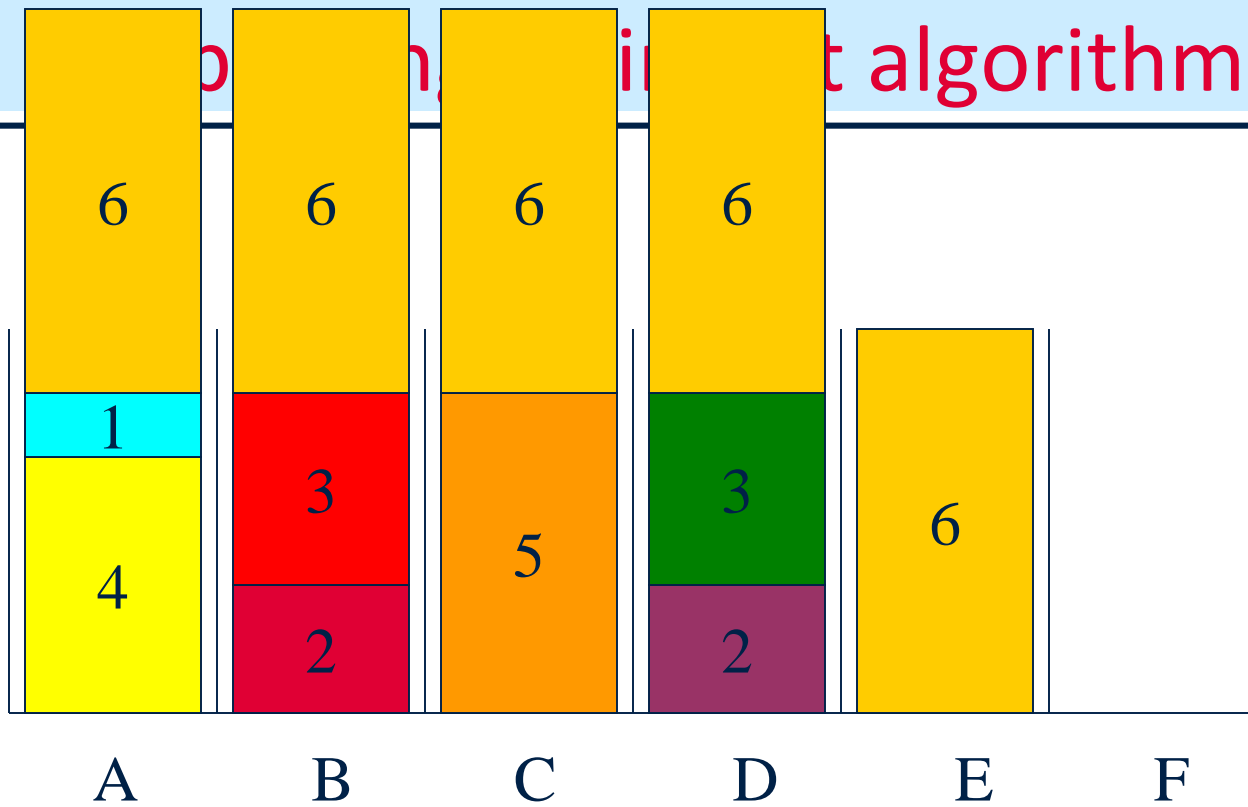
# Bin packing – First fit algorithm



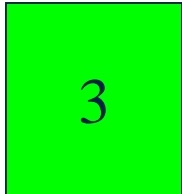
The next one also fits in the fourth bin



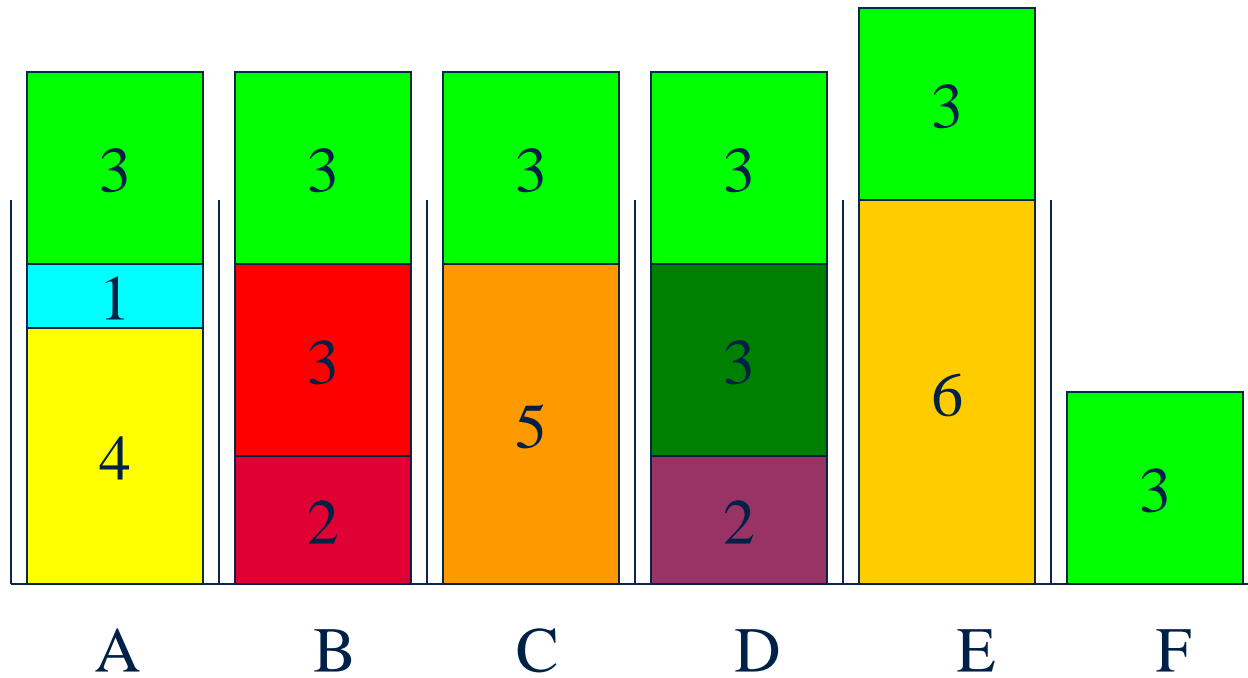
# bin packing algorithm



No room until the fifth bin for the 6

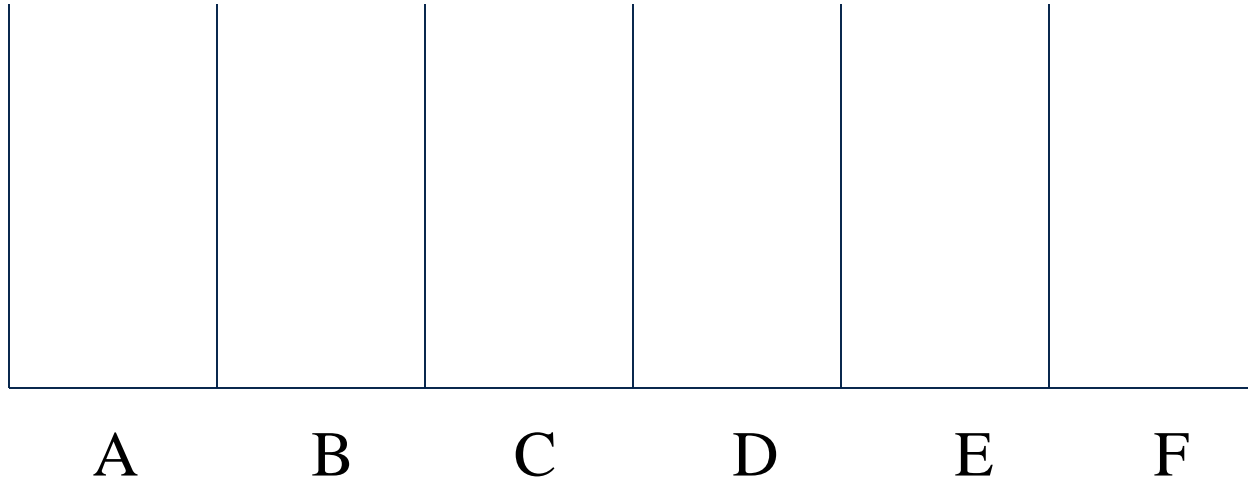


# Bin packing – First fit algorithm

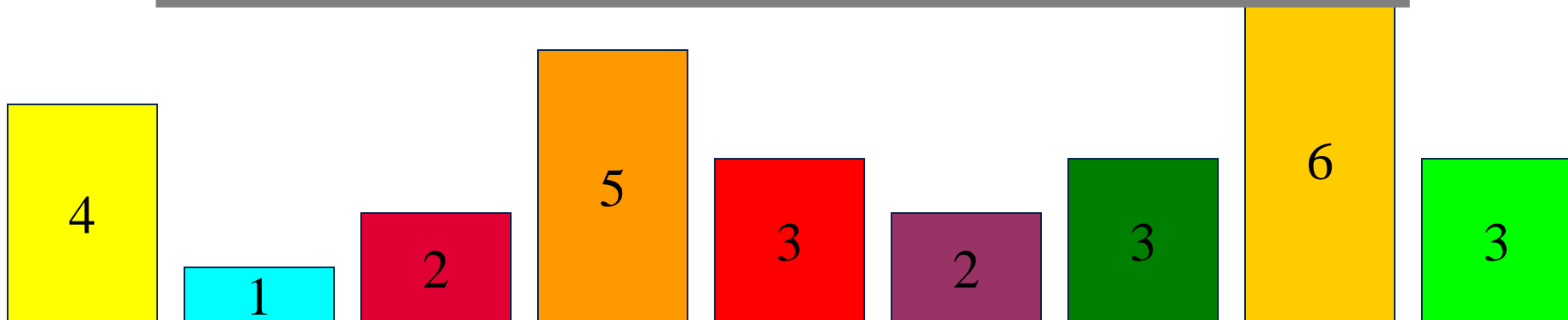


Total usage is 6 bins.

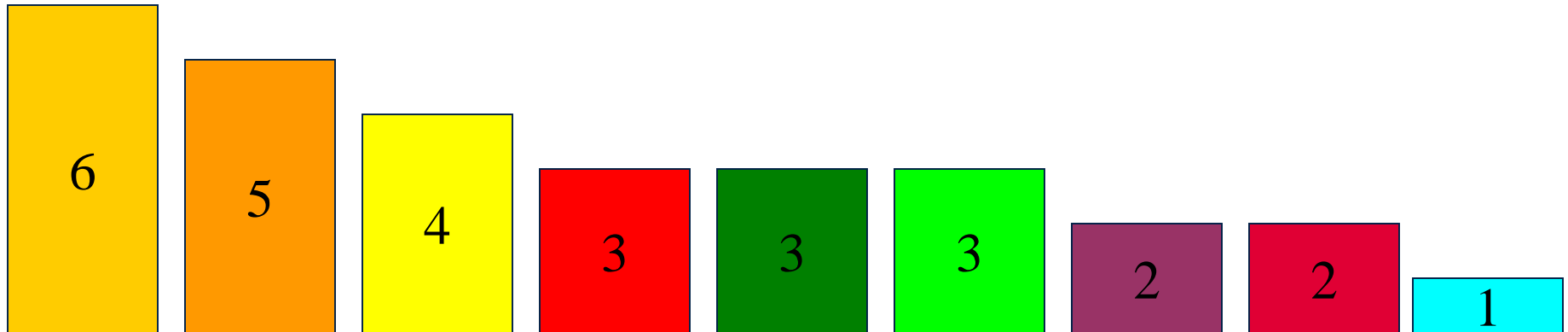
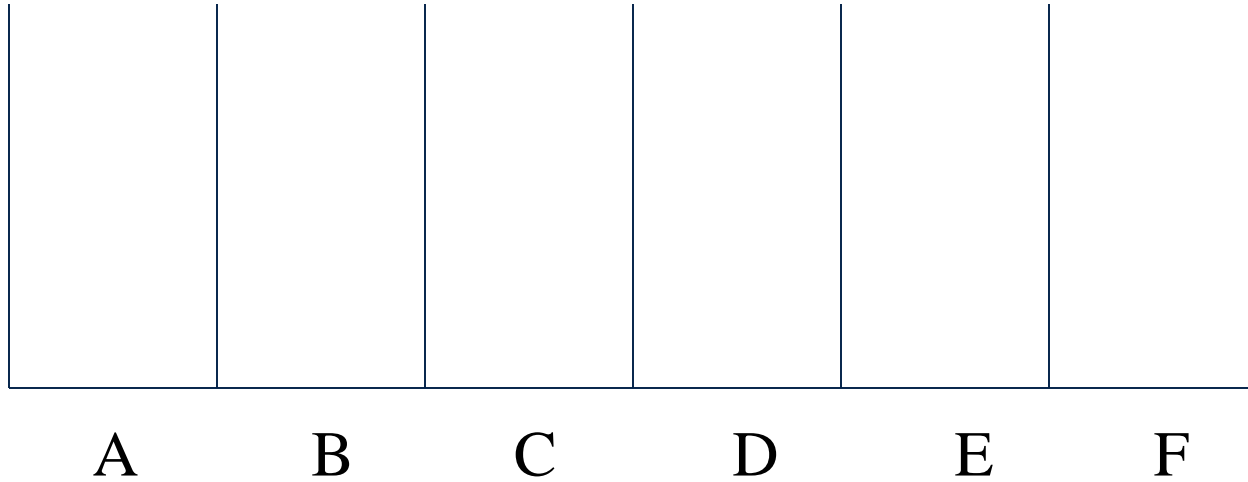
# Bin packing – First fit decreasing algorithm



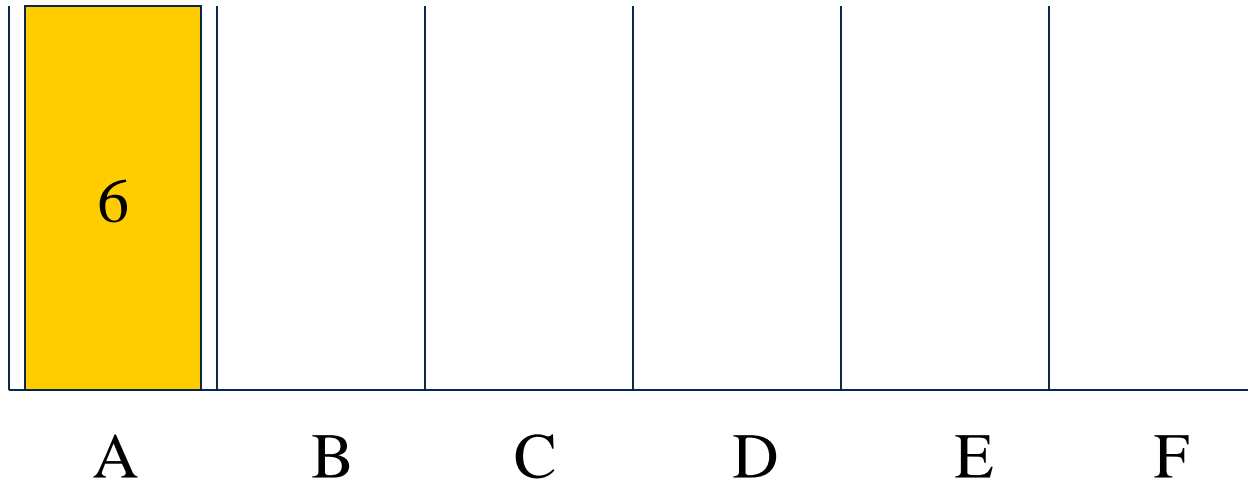
With the first fit decreasing algorithm we sort the blocks into descending order first.



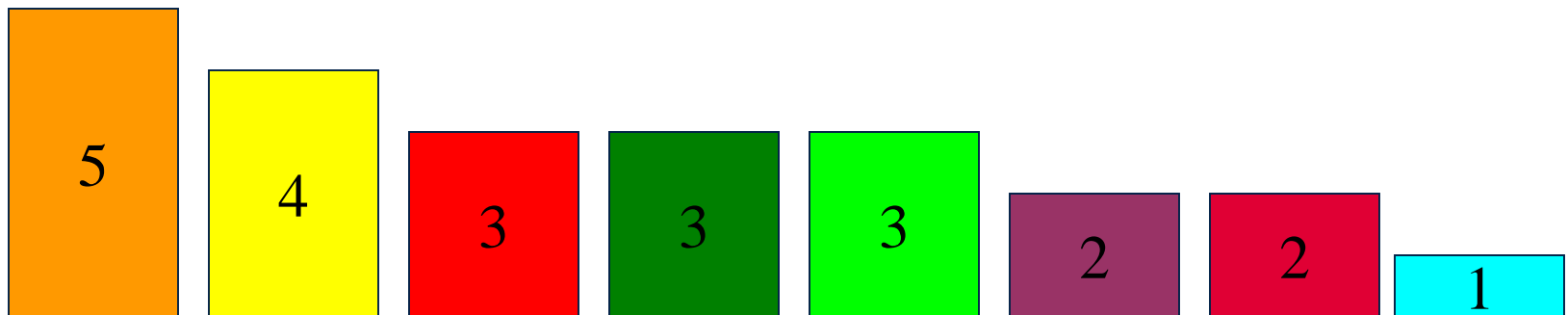
# Bin packing – First fit decreasing algorithm



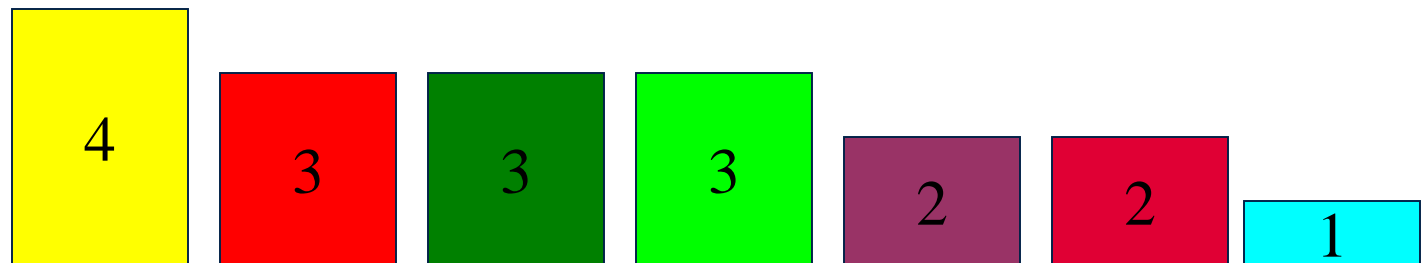
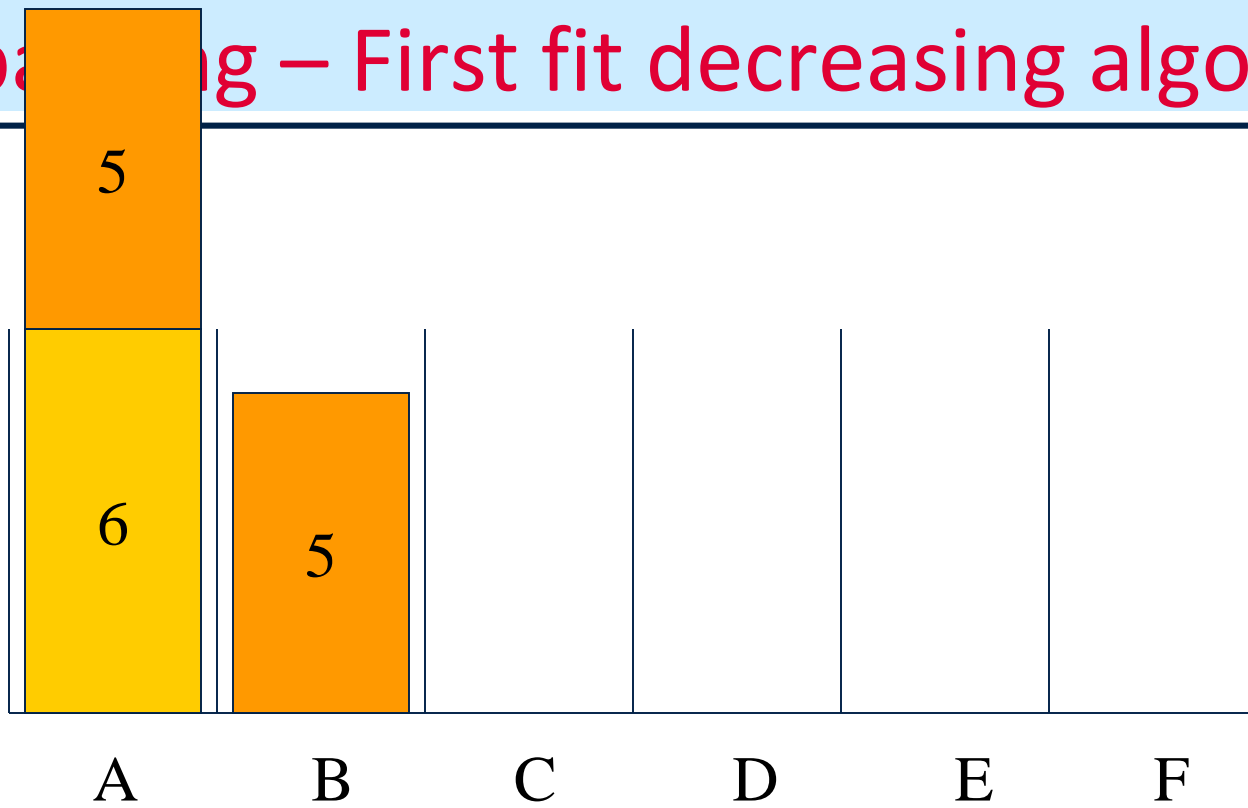
# Bin packing – First fit decreasing algorithm



Now we use the first fit algorithm

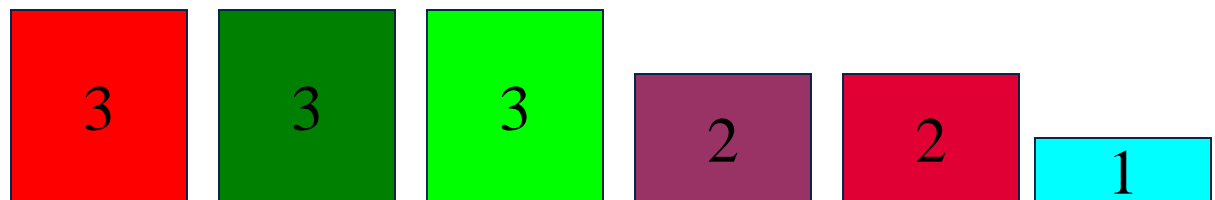
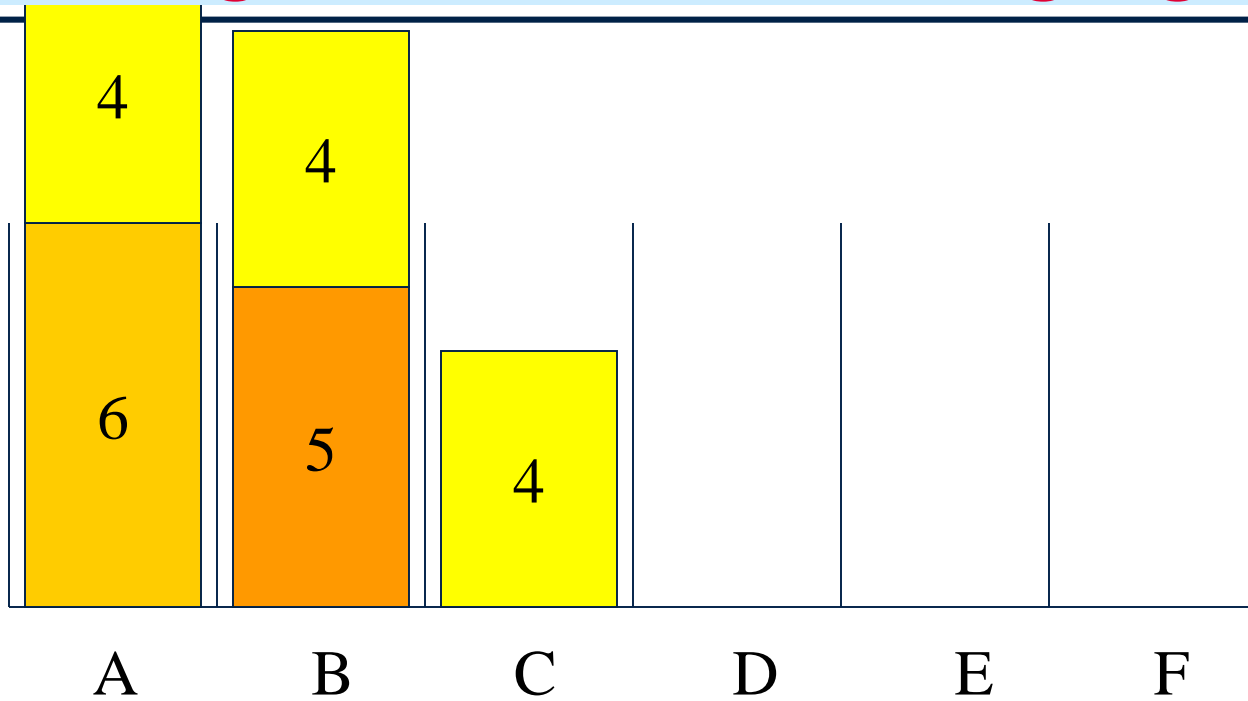


# Bin packing – First fit decreasing algorithm

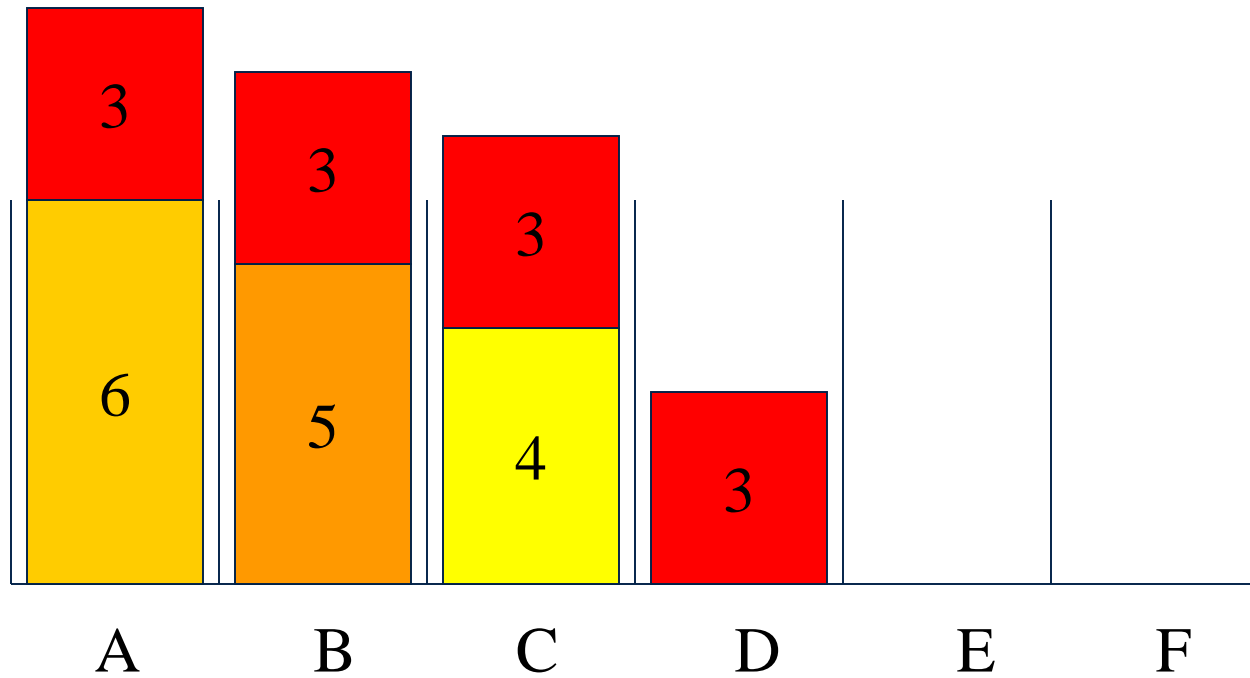




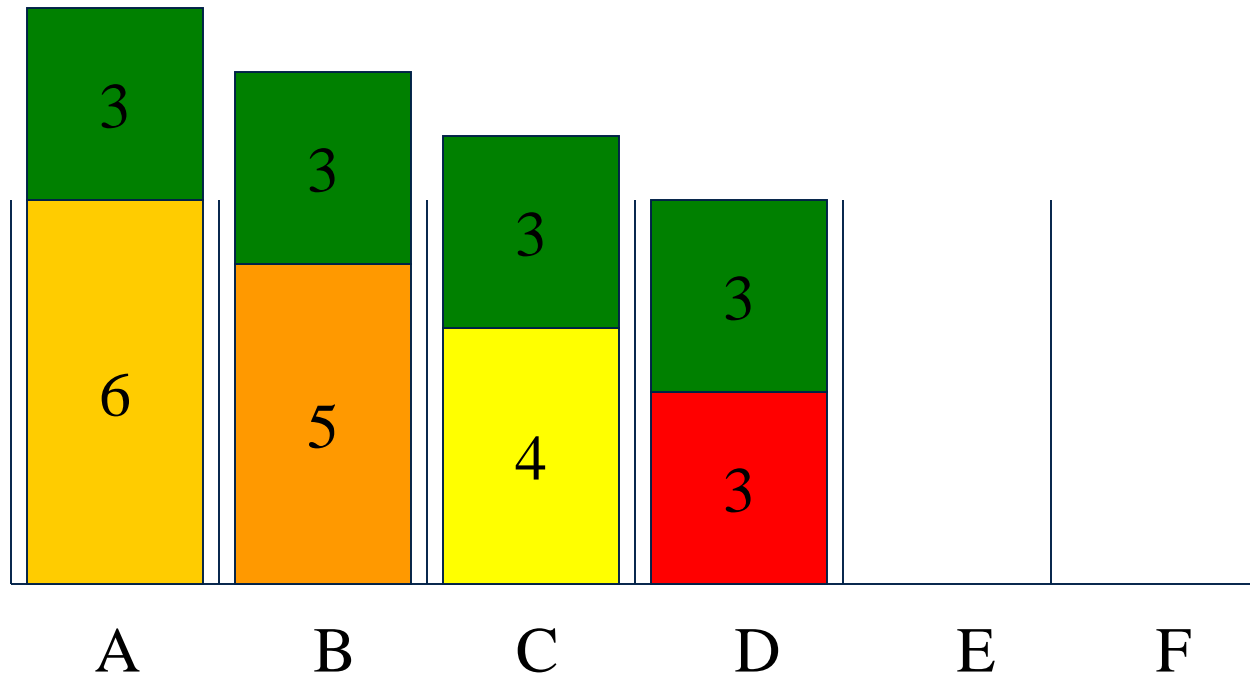
# Bin packing – First fit decreasing algorithm



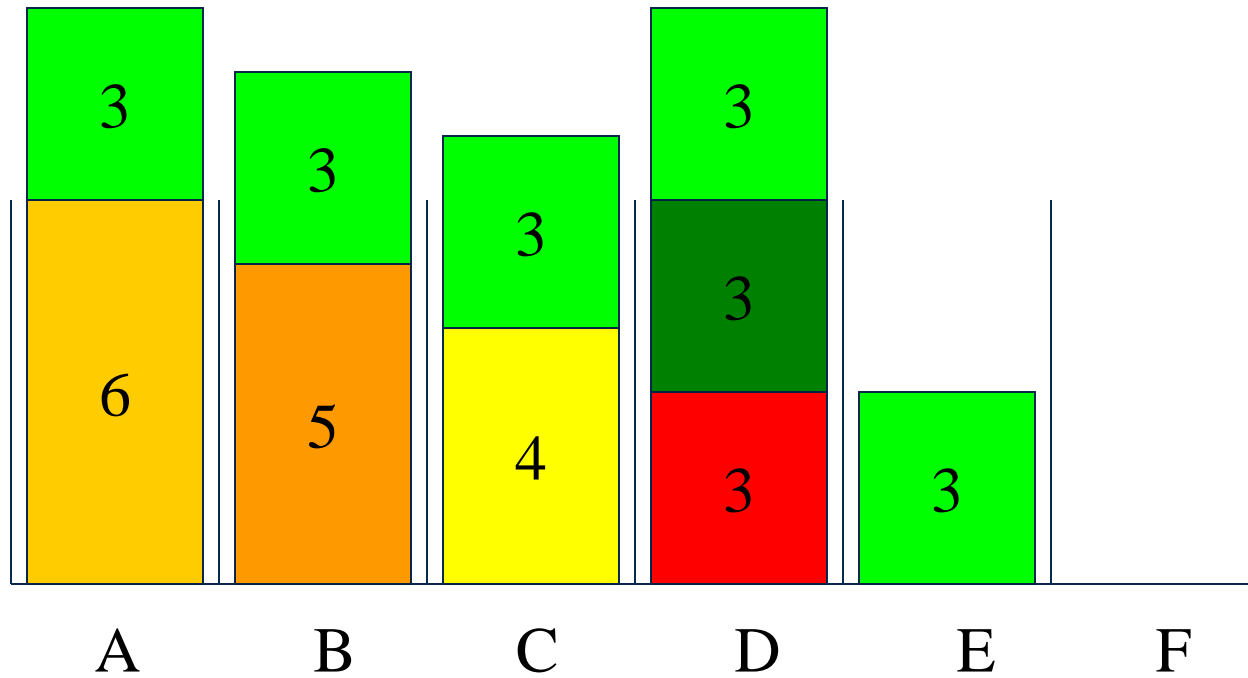
# Bin packing – First fit decreasing algorithm



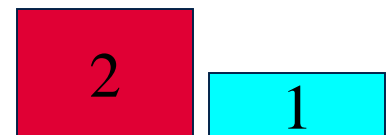
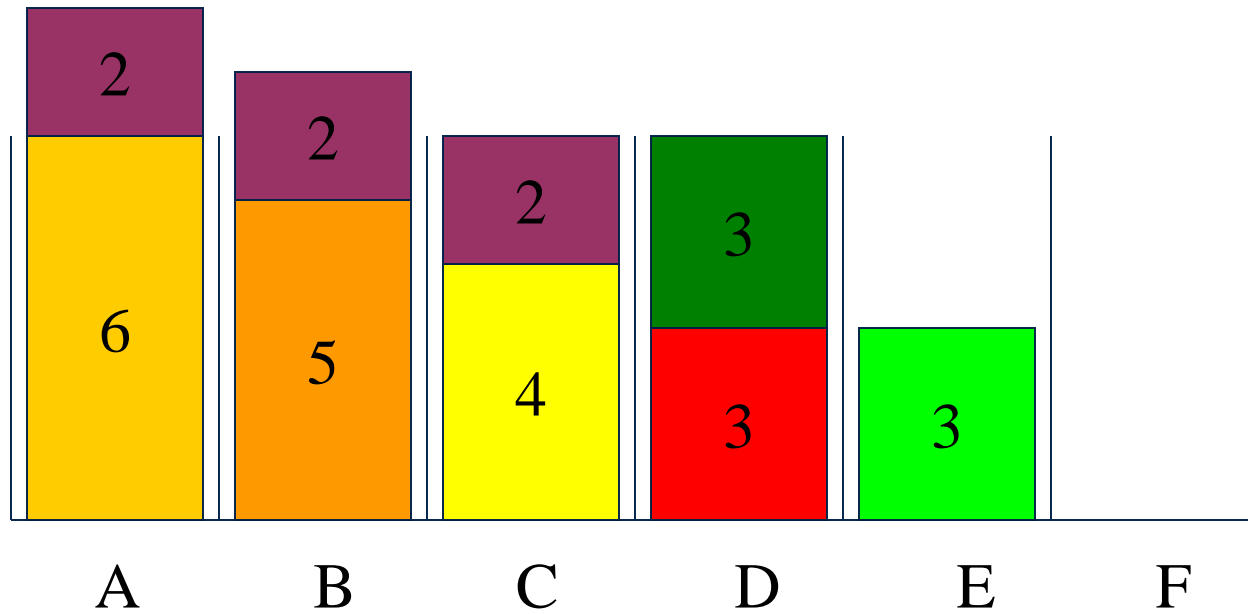
# Bin packing – First fit decreasing algorithm



# Bin packing – First fit decreasing algorithm

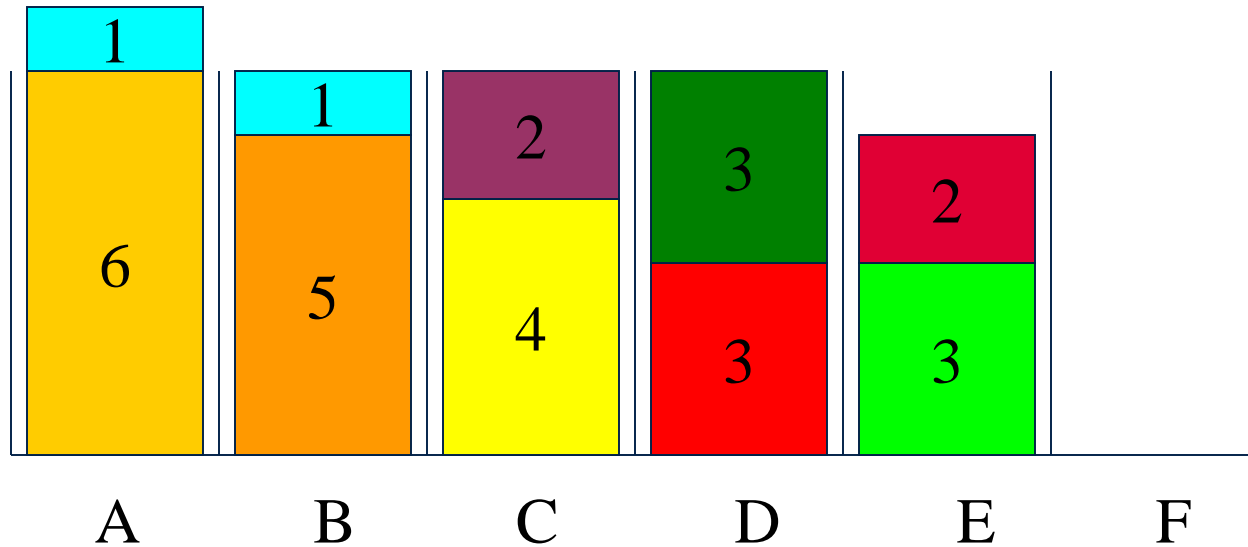


# Bin packing – First fit decreasing algorithm





# Bin packing – First fit decreasing algorithm



**We have packed them into 5 bins.**

# Algorithms for sorting

## The Bubble Sort

1. Compare the first two numbers.
2. If the first number is larger than the second, exchange the numbers.
3. Repeat steps 1 and 2 for all pairs of numbers until you reach the end of the list.
4. Repeat steps 1 to 3 until no more exchanges are made.



# Algorithms for sorting

## The Bubble Sort

Use this method to sort each of these lists:

**(a) 4 7 9 6 8 5 2 3**

**(b) 5 8 7 2 3 9 6 4**

# About the AMSP

- A government-funded initiative, managed by MEI, providing national support for teachers and students in all state-funded schools and colleges in England.
- It aims to increase participation in AS/A level Mathematics and Further Mathematics, and Core Maths, and improve the teaching of these qualifications.
- Additional support is given to those in priority areas to boost social mobility so that, whatever their gender, background or location, students can choose their best maths pathway post-16, and have access to high quality maths teaching.

# Contact the AMSP



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