

$$f(3) = 1 \cdot \text{stay} + 3 \text{ stays}$$

$$= \frac{3!}{1!} + \frac{3!}{3!}$$

$$= 7$$

{ stay left right
 stay stay

{ stay stay stay

$$f(4) = 0 \text{ stay} + 2 \text{ stays} + 4 \text{ stays}$$

(2 · left · right)

$$= \frac{4!}{2!2!} + \frac{4!}{2!} + \frac{4!}{4!}$$

$$= 6 + 12 + 1$$

$$= 19$$

{ left left right right
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{ stay stay stay stay

$$f(5) = 1 \text{ stay} + 3 \text{ stays} + 5 \text{ stays}$$

$$= \frac{5!}{2!2!} + \frac{5!}{3!} + \frac{5!}{5!}$$

$$= 30 + 20 + 1$$

$$= 51$$