





# INPUT 4

PUSH 10

PUSH 11

PUSH 12

PB

$\frac{10}{F}$   $\frac{11}{B}$   $\frac{12}{B}$

PF  $\frac{12}{B}$   $\frac{11}{B}$   $\frac{10}{F}$

PQ

$\frac{10}{F}$   $\frac{11}{B}$   $\frac{12}{B}$

ADD-BEG 1

ADD-END 6

ADD-BEG 2

ADD-BEG 3

ADD-END 5

ADD-END 4

PB 4 5 6  $\frac{10}{F}$   $\frac{11}{B}$   $\frac{12}{B}$  1 2 3

PF 3 2 1  $\frac{12}{B}$   $\frac{11}{B}$   $\frac{10}{F}$  6 5 4

PQ

$\frac{10}{F}$   $\frac{11}{B}$   $\frac{12}{B}$

$\frac{15}{B}$   $\frac{14}{B}$   $\frac{13}{B}$   $\frac{12}{B}$   $\frac{11}{B}$   $\frac{10}{F}$  6 5 4

PUSH 13

PUSH 14

PUSH 15

PUSH 16

PUSH 17

PB

$\frac{16}{B}$   $\frac{17}{B}$  6  $\frac{10}{F}$   $\frac{11}{B}$   $\frac{12}{B}$   $\frac{13}{B}$   $\frac{14}{B}$   $\frac{15}{B}$

PF  $\frac{15}{B}$   $\frac{14}{B}$   $\frac{13}{B}$   $\frac{12}{B}$   $\frac{11}{B}$   $\frac{10}{F}$  6  $\frac{17}{B}$   $\frac{16}{B}$

PQ

$\frac{10}{F}$   $\frac{11}{B}$   $\frac{12}{B}$   $\frac{13}{B}$   $\frac{14}{B}$   $\frac{15}{B}$   $\frac{16}{B}$   $\frac{17}{B}$

DEL-END

PB

$\frac{17}{B}$  6  $\frac{10}{F}$   $\frac{11}{B}$   $\frac{12}{B}$   $\frac{13}{B}$   $\frac{14}{B}$   $\frac{15}{B}$

PF  $\frac{15}{B}$   $\frac{14}{B}$   $\frac{13}{B}$   $\frac{12}{B}$   $\frac{11}{B}$   $\frac{10}{F}$  6  $\frac{17}{B}$  X

PQ

$\frac{10}{F}$   $\frac{11}{B}$   $\frac{12}{B}$   $\frac{13}{B}$   $\frac{14}{B}$   $\frac{15}{B}$   $\frac{17}{B}$

DEL-END

PB

6  $\frac{10}{F}$   $\frac{11}{B}$   $\frac{12}{B}$   $\frac{13}{B}$   $\frac{14}{B}$   $\frac{15}{B}$

PF  $\frac{15}{B}$   $\frac{14}{B}$   $\frac{13}{B}$   $\frac{12}{B}$   $\frac{11}{B}$   $\frac{10}{F}$  6 X

PQ

$\frac{10}{F}$   $\frac{11}{B}$   $\frac{12}{B}$   $\frac{13}{B}$   $\frac{14}{B}$   $\frac{15}{B}$

DEL-BEG

PB

6  $\frac{10}{F}$   $\frac{11}{B}$   $\frac{12}{B}$   $\frac{13}{B}$   $\frac{14}{B}$

PF X  $\frac{14}{B}$   $\frac{13}{B}$   $\frac{12}{B}$   $\frac{11}{B}$   $\frac{10}{F}$  6

PQ

$\frac{10}{F}$   $\frac{11}{B}$   $\frac{12}{B}$   $\frac{13}{B}$   $\frac{14}{B}$

DEL-BEG

PB

6  $\frac{10}{F}$   $\frac{11}{B}$   $\frac{12}{B}$   $\frac{13}{B}$

PF X  $\frac{13}{B}$   $\frac{12}{B}$   $\frac{11}{B}$   $\frac{10}{F}$  6

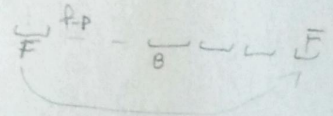
PQ

$\frac{10}{F}$   $\frac{11}{B}$   $\frac{12}{B}$   $\frac{13}{B}$

temp-constant

back = back-next

back-next = back->next, NULL



INPUT 5

ADD\_END 42

PF 42

GH

PF NULL

PUSH 10

PF 10

GH

PF 10

ADD\_END 6

—— 11 — 5

—— 11 — 4

—— 11 — 3

—— 11 — 2

—— 11 — 1

ADD\_BEG 8

—— 11 — 9

PF 9 8 10 6 5 4 3 2 1  
F=B

PUSH 11

PUSH 12

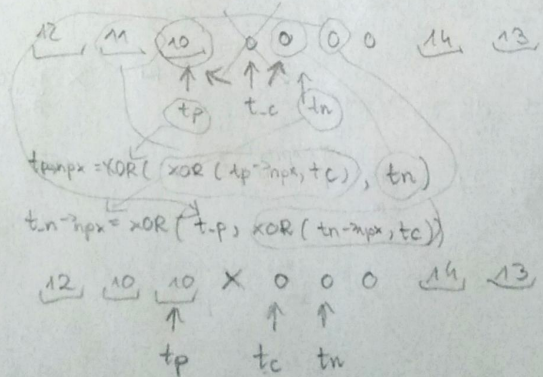
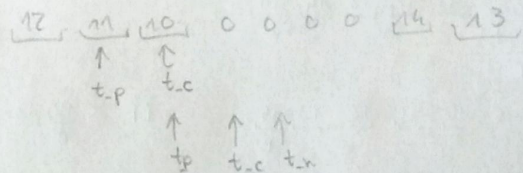
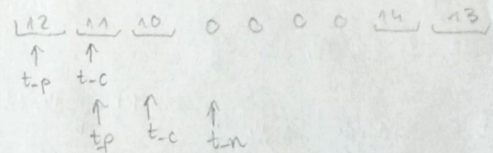
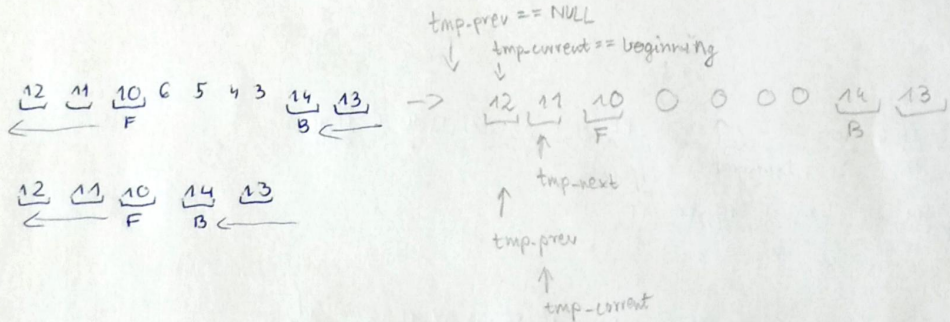
PUSH 13

PUSH 14

PF

GH

PF





INPUT 6

PUSH 5

PUSH 1

PUSH 2

PUSH 3

POP

POP 4

PF

PQ

5

3 2 1 4  
1 2 3 4

3 2 1 5  
B F

POP

3 2 1 5  
B F

3 2 1 4  
B F

✓

✓

PUSH 5

PF

PQ

POP

PUSH 6

PF

PQ

POP

PUSH 7

PUSH 8

PF

PQ

POP

PUSH 8

PUSH 10

PUSH 11

PF

PQ

POP

POP

POP

POP

POP

POP

POP

POP

POP

PF

PQ

3 2 1 5 4

1 2 3 4 5

1

3 2 6 5 4

2 3 4 5 6

2

3 8 7 6 5 4

3 4 5 6 7 8

3

11 10 8 8 7 6 5 4

4 5 6 7 8 8 10 11

4

5

6

7

8

8

10

11

NULL

11 10 8 8 7 6 5 4

NULL

3 2 1 5 4  
B F

3 2 1 5 4  
B F

3 2 6 5 4  
B F

3 2 6 5 4  
B F

3 7 6 5 4  
B F

3 8 7 6 5 4  
B F

3 8 7 6 5 4  
B F

8 8 7 6 5 4  
B F

10 8 8 7 6 5 4  
B F

11 8 8 7 6 5 4  
B F

1 1 1 1 1 1 ✓

1 1 1 1 1 1 - - - -

INPUT 7

PUSH 5  
PUSH 6  
PUSH 1  
PUSH 2  
PUSH 3  
PUSH 4

4 3 2 1 6 5  
B F ✓

POP 5

POP 6

4 3 2 1 6 5  
B F ✓

PUSH 7

PUSH 8

PRINT-F

4 3 2 1 8 7  
F B ✓

PRINT-Q

1 2 3 4 5 8 ✓

ADD-BEG 5

ADD-END 6

PF

5 4 3 2 1 8 7 6  
F B

PQ

1 2 3 4 5 6 7 8

POP

POP

POP

POP

PF

PQ

ADD-BEG 1

ADD-BEG 2

ADD-END 4

ADD-END 3

PF

PQ

GARBAGE-HARD

PF

PQ



# INPUT 8

PUSH 1		$\begin{array}{c} 2 \\ \hline B \end{array} \quad \begin{array}{c} 1 \\ \hline F \end{array}$
PUSH 2		
POP	1	$\begin{array}{c} 2 \\ \hline FB \end{array} \quad 1$
COUNT	1	
SIZE	2	
PF	2 1	$\begin{array}{c} 2 \\ \hline FB \end{array} \quad 1$
PQ	2	$\begin{array}{c} 2 \\ \hline FB \end{array} \quad 2$
PUSH 3		$\begin{array}{c} 2 \\ \hline F \end{array} \quad \begin{array}{c} 3 \\ \hline B \end{array}$
PUSH 4		$\begin{array}{c} 2 \\ \hline F \end{array} \quad \begin{array}{c} 4 \\ \hline B \end{array} \quad 3$
POP	2	
COUNT	2	
SIZE	3	
PF	2 4 3	$\begin{array}{c} 2 \\ \hline F \end{array} \quad \begin{array}{c} 4 \\ \hline B \end{array} \quad \begin{array}{c} 3 \\ \hline F \end{array}$
PQ	3 4	$\begin{array}{c} 3 \\ \hline F \end{array} \quad \begin{array}{c} 4 \\ \hline B \end{array} \quad \begin{array}{c} 3 \\ \hline F \end{array}$
PUSH 5		$\begin{array}{c} 5 \\ \hline B \end{array} \quad \begin{array}{c} 4 \\ \hline B \end{array} \quad \begin{array}{c} 3 \\ \hline F \end{array}$
POP	3	
POP	4	$\begin{array}{c} 5 \\ \hline B \end{array} \quad 4 \quad 3$
COUNT	1	$\begin{array}{c} 5 \\ \hline BF \end{array}$
SIZE	3	
PF	5 4 3	
PQ	5	
PUSH 6		
PUSH 7		
PUSH 8		
COUNT	4	
SIZE	4	
PF	5 8 7 6	✓
PQ	5 6 7 8	✓
ADD-BEG 9		
COUNT	5	✓
SIZE	5	✓
ADD-END 10		
COUNT	6	✓
SIZE	6	✓
PF	9 5 8 7 6 10	✓
PQ	5 9 10 6 7 8	✓
DEL-BEG		
COUNT	5	→ 6
SIZE	5	
PF	5 8 7 6 10	✓
PQ	5 10 6 7 8	✓
DEL-END		
COUNT	4	→ 6
SIZE	4	

PF	5 8 7 6
PQ	5 6 7 8