Problem J1

```
 _     _  _     _  _  _  _  _
| |  | _| _||_||_ |_  ||_||_|
|_|  ||_  _|  | _||_| ||_| _|
```

Judging instructions : There are three test cases, each valued at **5** points, 2 points for the proper number of lines, 2 for the proper number of "*" s, and one for structure. It is permissible for the horizontal segments to be " `***` " rather than " `* * *` "

Prompts for input do not need to be exactly as shown here or on the problem page.

Input 1

`Enter a digit between 0 and 9: `**`0`**

Output 1

```
 *  *  *
*        *
*        *
*        *

*        *
*        *
*        *
 *  *  *
```

Input 2

`Enter a digit between 0 and 9: `**`5`**

Output 2

```
 *  *  *
*
*
*
 *  *  *
         *
         *
         *
 *  *  *
```

Input 3

`Enter a digit between 0 and 9: `**`9`**

Output 3

```
 *  *  *
*        *
*        *
*        *
 *  *  *
         *
         *
         *
 *  *  *
```

AmeriCanadian

Judging instructions : There are five test words, each valued at **3** points. Total 15 points.

Prompts for input and spacing do not need to be exactly as shown here or on the problem page.

User input is in **bold** type.

```
Enter words to be translated:
```

neighbor

neighbour

door

door

instructor

instructour

transport

transport

floor

floor

quit!

The Students' Council Breakfast

Judging instructions : There are three test cases. Each case is worth **5** points, 1 for reporting the combinations, 2 for the total number of combinations, and 2 for the minimum number of tickets to print. Deduct at most 2 points overall if the columns are not aligned. Total 15 points.

Prompts for input do not need to be exactly as shown here or on the problem page.

User input is in **bold** type.

Input 1

```
Cost of PINK tickets    :1
Cost of GREEN tickets   :2
Cost of RED tickets     :3
Cost of ORANGE tickets :4
How much must be raised with ticket sales? 3
```

Output 1

```
# of PINK is 0  # of GREEN is 0  # of RED is 1  # of ORANGE is 0
# of PINK is 1  # of GREEN is 1  # of RED is 0  # of ORANGE is 0
# of PINK is 3  # of GREEN is 0  # of RED is 0  # of ORANGE is 0
Total combinations is 3.
Minimum number of tickets to print is 1.
```

Input 2

```
Cost of PINK tickets    :5
Cost of GREEN tickets   :7
Cost of RED tickets     :9
Cost of ORANGE tickets :11
How much must be raised with ticket sales? 20
```

Output 2

```
# of PINK is 0  # of GREEN is 0  # of RED is 1  # of ORANGE is 1
# of PINK is 4  # of GREEN is 0  # of RED is 0  # of ORANGE is 0
Total combinations is 2.
Minimum number of tickets to print is 2.
```

Input 3

```
Cost of PINK tickets    :2
Cost of GREEN tickets   :3
Cost of RED tickets     :4
Cost of ORANGE tickets :8
How much must be raised with ticket sales? 17
```

Output 3

```
# of PINK is 1  # of GREEN is 1  # of RED is 1  # of ORANGE is 1
# of PINK is 0  # of GREEN is 3  # of RED is 0  # of ORANGE is 1
# of PINK is 3  # of GREEN is 1  # of RED is 0  # of ORANGE is 1
# of PINK is 1  # of GREEN is 1  # of RED is 3  # of ORANGE is 0
# of PINK is 0  # of GREEN is 3  # of RED is 2  # of ORANGE is 0
# of PINK is 3  # of GREEN is 1  # of RED is 2  # of ORANGE is 0
# of PINK is 2  # of GREEN is 3  # of RED is 1  # of ORANGE is 0
# of PINK is 5  # of GREEN is 1  # of RED is 1  # of ORANGE is 0
# of PINK is 1  # of GREEN is 5  # of RED is 0  # of ORANGE is 0
# of PINK is 4  # of GREEN is 3  # of RED is 0  # of ORANGE is 0
# of PINK is 7  # of GREEN is 1  # of RED is 0  # of ORANGE is 0
Total combinations is 11.
Minimum number of tickets to print is 4.
```

Problem J4S2

Fraction Action

Judging instructions: There are five test cases. Each case is worth **3** points, Total 15 points.

Prompts for input do not need to be exactly as shown here or on the problem page.

User input is in **bold** type.

Input 1

```
Numerator: 25
Denominator: 5
```

Output 1

```
5
```

Input 2

```
Numerator: 9
Denominator: 2
```

Output 2

```
4 1/2
```

Input 3

```
Numerator: 2
Denominator: 5
```

Output 3

```
2/5                    or 0 2/5
```

Input 4

```
Numerator: 39
Denominator: 9
```

Output 4

```
4 1/3
```

Output 5

Input 5

```
Numerator: 6
Denominator: 10
```

```
3/5                    or 0 3/5
```

Blindfold

Judging instructions: There are four test cases. The first **three** cases are worth **4** points each, 2 for the proper number of "*"s and 2 for the positioning of the "*" s. The **last case** is worth **3** points, 1 for the proper number of "*"s and 2 for the positioning of the "*" s. Total 15 points.

blind1.in

```
5
5
.....
.X.X.
.....
.XXX.
.....
6
F
F
F
F
R
F
```

blind1.out

```
.*...
*X.X*
.....
*XXX*
...*.
```

blind2.in

```
2
4
....
.XX.
3
F
R
F
```

blind2.out

```
.*..
.XX*
```

blind3.in

```
5
5
.....
.X.X.
.....
.X.X.
.....
16
R
F
F
L
L
L
F
F
L
L
L
F
F
R
F
F
```

blind3.out

```
*.*.*
.X.X.
*.*.*
.X.X.
*.*.*
```

blind4.in

```
1
64
................................................................
50
F
F
F
F
F
F
F
F
F
F
F
F
F
F
F
F
F
F
F
F
F
F
F
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F
F
F
F
F
F
F
F
F
F
F
F
F
F
F
F
F
F
F
F
F
```

blind4.out

```
*************............................................*************
```

Bridge Crossing

Judging instructions: There are five test cases. Each case is worth **3** points, 2 for the total time, and 1
the list of groups. Total 15 points.

bridge1.in

```
2
5
alice
1
bob
5
charlie
5
dobson
3
eric
3
```

bridge1.out

```
Total Time: 9
alice
bob charlie
dobson eric
```

bridge2.in

```
2
3
alice
8
bob
5
charlie
3
```

bridge2.out

```
Total Time: 11
alice bob
charlie
```

bridge3.in

```
3
5
mary
5
john
6
fred
10
alice
5
yertle
11
```

bridge3.out

```
Total Time: 17
mary john
fred alice yertle
```

bridge4.in

```
8
26
a
46
b
44
c
67
d
45
e
38
f
90
g
53
h
39
i
21
j
24
k
75
l
54
m
28
n
2
o
99
p
26
q
95
r
25
s
102
t
76
u
78
v
32
w
32
x
34
y
16
z
59
```

bridge4.out

```
Total Time: 315
a b c d e f g h
i j
k l m n o p q r
s t u v w x y z
```

bridge5.in

```
3
26
a
46
b
44
c
67
d
45
e
38
f
90
g
53
h
39
i
21
j
24
k
75
l
54
m
28
n
2
o
99
p
26
q
95
r
25
s
102
t
76
u
78
v
32
w
32
x
34
y
16
z
59
```

bridge5.out

```
Total Time: 620
a b c
d e
f g h
i j
k l m
n
o p q
r
s t u
v w
x y z
```

Problem S5
Follow the Bouncing Ball

Judging instructions: There are five test cases, each worth **3** points.
Total 15 points.

ball1.in

```
100
102
50
6
```

ball1.out

```
8
```

ball2.in

```
464
408
99
170
```

ball2.out

```
5
```

ball3.in

```
997
991
5
986
```

ball3.out

```
64878
```

ball4.in

```
10
10
5
5
```

ball4.out

```
0
```

ball5.in

```
996
998
510
499
```

ball5.out

```
0
```