

# Problem N1

## Star Wars Logo

**Input:** none

**Output:** monitor

**Description:** ASCII art is a graphic design technique that creates pictures using the 95 printable ASCII characters. Use ASCII art to display the classic Stars Wars logo

**Input:** No input.

**Output:** ASCII representation of the Star Wars logo exactly as shown.

**Sample Input:** None.

**Sample Output:**

```
      888888888888  888  888888
     88      88  88 88  88 88
      8888 88 88  88 888888
           88 88 8888888888 88  88
8888888888 88 88      88 88  88888888

88 88 88  888  88888  888888
88 88 88 88 88  88 88  88
88 8888 88 88  88 88888  8888
 888 888 8888888888 88 88      88
 88 88 88      88 88  888888888
```

## Problem N2

### Naboo Fleet Data

**Input:** none

**Output:** monitor

**Description:** It is your job to print out the current status of Naboo's Fleet.

**Input:** No input

**Output:** A well-formatted table exactly as shown. The first two columns are 15 characters wide, the third column is 11 characters wide, and the last column is 10 characters wide.

**Sample Input:**

none

**Sample Output:**

SHIP NAME	CLASS	DEPLOYMENT	IN SERVICE
N2 Bomber	Heavy Fighter	Limited	21
J-Type 327	Light Combat	Unlimited	1
NX Cruiser	Medium Fighter	Limited	18
N1 Starfighter	Medium Fighter	Unlimited	25
Royal Cruiser	Light Combat	Limited	4

# Problem N3

## Battle Droid Expenses

**Input:** n3.in

**Output:** monitor

**Description:** It's your job calculate the cost of replacing damaged battle droids. The cost of equipment and parts is given in the table below.

Blast Rifle	\$350.34
Visual Sensors	\$230.90
Auditory Sensors	\$190.55
Arms	\$125.30
Legs	\$180.90

**Input:** A positive integer,  $n$ , on the first line indicating the number of data sets to follow. Each data set will consist of 5 positive integers separated by a space (A B C D E).

A: number of blast rifles needed

B: number of visual sensors needed

C: number of auditory sensors needed

D: number of arms needed

E: number of legs needed

**Output:** For each data set print the total cost of replacing damaged battle droids formatted to two decimal places and preceded by a dollar sign.

**Sample Input:**

```
3
20 10 14 3 9
19 17 12 8 10
11 9 8 22 33
```

**Sample Output:**

```
$13987.50
$15679.76
$16182.54
```

# Problem N4

## Garbled Message

**Input:** n4.in

**Output:** monitor

**Description:** Obi-Wan has just sent an urgent message to the Jedi Temple, but the message has been garbled by subspace interference. All of the strings "th" have been replaced with "iiing".

Your job is to unscramble the message

**Input:** One or more lines of garbled text.

**Output:** The ungarbled text.

**Sample Input:**

Dariing Bane restructured iiinge cult, so iingat iiingere could only be two - no more, no less - a master, and an apprentice. Bane adopted cunning, subterfuge, and stealiing as iiinge fundamental tenets of iiinge Siiing order. Bane took an apprentice. When iingat apprentice succeeded him, iingat new Siiing Lord would take an apprentice.

**Sample Output:**

Darth Bane restructured the cult, so that there could only be two - no more, no less - a master, and an apprentice. Bane adopted cunning, subterfuge, and stealth as the fundamental tenets of the Sith order. Bane took an apprentice. When that apprentice succeeded him, that new Sith Lord would take an apprentice.

# Problem N5

## Yoda Talk

**Input:** n5.in

**Output:** monitor

**Description:** As a young jedi night you must learn to converse with Yoda. You have found a simple rule that helps change a “normal” sentence into “Yoda talk”. Take the first two words in the sentence and place them at the end. Write a program that uses this rule to change normal sentence into “Yoda talk”.

**Input:** The first line of input will be a positive integer, n. This will be followed by n lines each contain a “normal” sentence that you must change into “Yoda talk”.

**Output:** For each normal sentence print (in the order given) the corresponding sentence in Yoda talk.

**Sample Input:**

4

I will go now to find the Wookiee  
Solo found the death star near planet Kessel  
I'll fight Darth Maul here and now  
Vader will find Luke before he can escape

**Sample Output:**

go now to find the Wookiee I will  
the death star near planet Kessel Solo found  
Darth Maul here and now I'll fight  
find Luke before he can escape Vader will

# Problem N6

## Escape Route

**Input:** n6.in

**Output:** monitor

**Description:** You are surrounded by Imperial warships and must land on a planet to escape. Your best chance is to find a route to the closest planet. Unfortunately the navigation system has been damaged. Your job is to write a program that will find the planet that is closest to your current location. Recall that the distance between two points  $(x_1, y_1)$  and  $(x_2, y_2)$  is given by the formula

$$\text{dist} = ( (x_1 - x_2)^2 + (y_1 - y_2)^2 )^{1/2}$$

**Input:** A positive integer,  $n$ , followed by  $n$  pairs of integers  $(x,y)$ . Each pair will be on a separate line and there will be a space between  $x$  and  $y$ . The first pair will be the coordinates of your current location and all subsequent pairs will be the coordinates of the planets you can escape to.

**Output:** Coordinates of your current location, coordinates of a closest planet, and the distance to that planet formatted to two decimal places. The distance must be accurate to two decimal places.

**Sample Input:**

```
7
5 4
-80 9
100 89
67 -40
10 20
15 -5
34 0
```

**Sample Output:**

```
5 4
15 -5
13.45
```

# Problem N7

## Decoder

**Input:** n7.in

**Output:** monitor

**Description:** All the Sith messages are sent using a complex coding scheme. You have cracked their code and must write a program to decode coded messages. Their code works as follows. Each word in the coded message represents one letter in the decoded message. Use the first letter of the first word and for each subsequent word use the  $n$ th letter where  $n$  is the length of the previous word. If the previous word is longer than the current word the current word represents a "space" (i.e., a blank space).

Here are two example:

**Coded Message**

A Tree

Some one too a sas

**Decode Message**

AT

S o s

**Input:** A positive integer,  $n$ , on the first line. After the first line there will be  $n$  words that represent the coded message.

**Output:** The decoded message on one line.

**Sample Input:**

10

Give Solo a total Naboo map DEV reject bateau German

**Sample Output:**

Go to Vjun

# Problem N8

## Total Count

**Input:** n8.in

**Output:** monitor

**Description:** Han Solo wants a count of all the enemy fighters he shot down while captain of the Millennium Falcon. The data log has a list of kills but not the totals. Your job is to write a program that will read the data log and display the name of the fighter followed by the number shot down and the total number of kills.

**Input:** Each line of input will contain the name of the fighter that was shot down. The end of input is marked with a 0 on the last line.

**Output:** The name of the fighter followed immediately by a colon followed by the number shot down. There should be one blank between the colon and the number shot down. The last line of output will be the word "Grand Total" followed immediately by a colon and the grand total of all fighters shot down. There should be one blank between the colon and the grand total. The fighters should be listed in order of first occurrence.

**Sample Input:**

```
Tie-fighter
V-wing
Starfighter
Starfighter
Tie-fighter
Tri-fighter
V-wing
Starfighter
Tie-fighter
V-wing
Tri-fighter
V-wing
Starfighter
Tie-fighter
0
```

**Sample Output:**

```
Tie-fighter: 4
V-wing: 4
Starfighter: 4
Tri-fighter: 2
Grand Total: 14
```



# Problem N9

## Making Change

**Input:** n9.in

**Output:** monitor

**Description:** Anakin Skywalker is leaving Tatooine, but before he can go he must program a droid to do his old job of making change for customers at Watto's junk business. Given the price of an item and the payment determine the correct change using \$50, \$20, \$10, \$5, and \$1 bills. You don't have to worry about change, because Watto always keeps the change.

**Input:** A positive integer,  $n$ , on the first line indicating the number of data sets to follow. Each data set will consist of two positive numbers. The first is the cost to the customer and the second is the payment made by the customer. The payment will always be greater than the cost.

**Output:** For each data set print the correct change on one line using the format

$v$ - $\$50$ ,  $w$ - $\$20$ ,  $x$ - $\$10$ ,  $y$ - $\$5$ ,  $z$ - $\$1$

where  $v$ ,  $w$ ,  $x$ ,  $y$ ,  $z$  are the number of bills needed to make the correct change. Of course, the correct change will always use larger bills when possible (i.e., 1- $\$5$  not 5- $\$1$ )

**Sample Input:**

```
3
1894.77 2000.00
77.15 100.40
25.50 100.00
```

**Sample Output:**

```
2-$50, 0-$20, 0-$10, 1-$5, 0-$1
0-$50, 1-$20, 0-$10, 0-$5, 3-$1
1-$50, 1-$20, 0-$10, 0-$5, 4-$1
```

# Problem N10

## Target Practice

**Input:** n10.in

**Output:** monitor

**Description:** The Trade Federation is too cheap to purchase practice targets for testing the battle droid weapon system. Your job is to write a program to print targets given an input that specifies the size of the target. The basic shape of a target is a square with an X through the middle. The following is a target of size 7.

```
|-----|           The middle characters are a dash (i.e., minus sign)
| *     * |
|  *  *  |
|   *   |
|  *  *  |
| *     * |
|-----|
```

**Input:** An **odd** positive integer greater than 1.

**Output:** Target of the appropriate size.

**Sample Input:**

9

**Sample Output:**

```
|-----|
| *           * |
|  *       *  |
|   *   *   |
|    *    |
|   *   *   |
|  *       *  |
| *           * |
|-----|
```