臺北市立第一女子高級中學 102 學年度

資訊學科能力競賽初賽

程式設計試題

2013.06.03

答題注意事項：

1. 請留意題目的說明，題目中未提及的事項，請勿自行假設。例如題目若要求輸入一個整數，則勿假設此整數必為正整數。
2. 評分時的測試資料由評分老師提供，僅測試完成題目上的輸入輸出範例，並不能保證該題能得到滿分。
3. 每題程式需在 10 秒內執行出結果，否則不予計分。
4. 輸出格式需完全和題目規定相同，不可以輸出多餘空白。
5. 不可以加 system("pause");等系統函數，如因這樣而無法 judge，請自行負責。
6. 程式編寫時間：09:10 ~ 11: 40
7. 程式測試時間：11:45 ~ 12:10

Problem A: 少年 Pi -- 3. 14159265358979323846264338327950288419716693.....

少年 Pi 背下π在小數點後的 100 位數，妳能背下幾位數呢?

目前的世界記錄是 100000 位哦! 日本人原口證於 2006 年 10 月 3 日背誦圓周率π至小數點後 100000 位。

圓周率，一般以π來表示，是一個在數學及物理學普遍存在的數學常數，是精確計算圓周長、圓面積、球體積等幾何量的關鍵值，其定義為圓的周長與直徑的比值。π也等於圓的面積與半徑平方的比值。

西元前 20 世紀開始，就有埃及人 Rhind Papyrus 開始計算π。一直到幾何法時期——利用反覆割圓的方式計算π。阿基米德用正 96 邊形割圓術得出圓周率介於$3\frac{1}{7}$與$3\frac{10}{71}$之間。公元 263 年，中國數學家劉徽用「割圓術」計算圓周率，他先從圓內接正六邊形，逐次分割為 12、24、48、96、192 邊形。劉徽給出 π=3.141024 的圓周率近似值，並以$\frac{157}{50} = 3.14$（徽率）為其分數近似值。劉徽在得圓周率=3.14 之後，將這個數值和晉武庫中漢王莽時代製造的銅製體積度量衡標準嘉量斛的直徑和容積檢驗，發現 3.14 這個數值還是不夠精密。於是繼續割圓到 1536 邊形，求出 3072 邊形的面積，得到令自己滿意的圓周率$\frac{3927}{1250} = 3.1416$。

公元 466 年，中國數學家祖沖之將圓周率算到小數點後 6 位的精確度，這一紀錄在世界上保持了一千年之久。祖沖之給出了$\frac{355}{113}$（密率）這個很好的分數近似值，它是分母小於 16604 的分數中最接近π的。為紀念祖沖之對圓周率發展的貢獻，日本數學家三上義夫將這一推算值命名為「祖沖之圓周率」，簡稱「祖率」。

由於π的無理性，所以只能以近似值的方法計算π。對於一般應用 3.14 或$\frac{22}{7}$（已足夠，但工程學常利用 3.1416（5 位有效數字）或 3.14159（6 位有效數字）。至於密率$\frac{355}{113}$（（3.1415929...）則是一個精確至 7 位有效數字的分數近似值。

2009 年末，有科學家已經用超級電腦計算出圓周率暫時計到小數點後 2 兆 7 千億個小數位。
2010 年 8 月，日本男子近藤茂利用自己組裝硬碟容量達 32TB 的電腦，計算出圓周率小數點後 5 兆個小數位。到了 2011 年 10 月 19 日，日本程式設計師 JA0HXV 宣布他已經將圓周率 Pi 計算到小數點後 10 兆位。

現在，換妳來算算看，如果我們用祖沖之的密率$\frac{355}{113}$來計算，請為我們算出這個數值小數後 n 位數值。(7≤n≤ 10000)

範例輸入 1：	**範例輸出 1：**
7	3.1415929
範例輸入 2：	**範例輸出 2：**
8	3.14159292
範例輸入 3：	**範例輸出 3：**
50	3.14159292035398230088495575221238938053097345132743

Problem B: DOMINO 西洋骨牌遊戲棋

多米諾骨牌 (Domino Stone) 是一種二格骨牌，也是國外常見到的一種遊戲棋。玩法很簡單，跟接龍很像，使用骨牌兩端點數值和另一塊端點數相同的骨牌連接。

骨牌遊戲可以是單人玩，也可以兩人玩。
以單人遊戲為例：假設手上有 6 塊骨牌，點數分別是 22, 16, 53, 41, 34, 25。
可以連接的順序就是 22, 25, 53, 34, 41, 16

現在，請妳設計一個程式，自動完成單人遊戲，找到最大可接牌的可能。

遊戲說明：

1. 允許骨牌翻轉。例如：25 可以轉為 52
2. 遊戲至不能接手為止。
3. 最後輸出最大可接牌數。以上面的例子來看，最大可接牌數為 6。

輸入說明：

第一行為一正整數 n，代表共有 n 塊骨牌。(n≤ 1000)
第二行為 n 個 2 位數字，代表 n 塊骨牌 2 個端點的數字 p q (0≤p≤6, 0≤q≤6)。

輸出說明：

最大可接牌數

範例輸入 1：

3
24 45 53

範例輸出 1：

3

範例輸入 2：

6
24 45 53 61 31 35

範例輸出 2：

5

Problem C: 國家寶藏

傳說三千多年前古埃及時代流傳下來一筆巨額寶藏，直到美國開國之初，這筆寶藏成了當時的「國安基金」，經過兩百多年的時空演變，目前這份寶藏下落不明。但是蓋茲一家傳說在美國開國之初就被授與保護這筆國家寶藏的任務，班傑明富蘭克林・蓋茲從小在爺爺的灌輸之下，堅信國家寶藏的存在。 班傑明經過多年的追查，發現最終的線索就藏在美國開國的獨立宣言的背面... 當他們輕輕塗上檸檬汁，對它吹吹熱氣，表面就浮現了幾組數字...

而秘密，就在沉默杜古德(*Silence Dogood*)的信中...

Sir,

Histories of Lives are seldom entertaining, unless they contain something either admirable or exemplar: And since there is little or nothing of this Nature in my own Adventures, I will not tire your Readers with tedious Particulars of no Consequence, but will briefly, and in as few Words as possible, relate the most material Occurrences of my Life, and according to my Promise, confine all to this Letter.

My Reverend master who had hitherto remained a Batchelor, (after much meditation on the Eighteenth verse of the Second Chapter of Genesis,) took up a Resolution to marry; and having made several unsuccessful fruitless Attempts on the more topping Sort of our Sex, and being tir'd with making troublesome Journeys and Visits to no Purpose, he began unexpectedly to cast a loving Eye upon Me, whom he had brought up cleverly to his Hand. There is certainly scarce any Part of a Man's Life in which he appears more silly and ridiculous, than when he makes his first Onset in Courtship. The aukward Manner in which my Master first discover'd his Intentions, made me, in spite of my Reverence to his Person, burst out into an unmannerly Laughter: However, having ask'd his Pardon, and with much ado compos'd my Countenance, I promis'd him I would take his Proposal into serious Consideration, and speedily give him an Answer.As he had been a great Benefactor (and in a Manner a Father to me) I could not well deny his Request, when I once perceived he was in earnest. Whether it was Love, or Gratitude, or Pride, or all Three that made me consent, I know not; but it is certain, he found it no hard Matter, by the Help of his Rhetorick, to conquer my Heart, and perswade me to marry him.This unexpected Match was very astonishing to all the Country round about, and served to furnish them with Discourse for a long Time after; some approving it, others disliking it, as they were led by their various Fancies and Inclinations. We lived happily together in the Heighth of conjugal Love and mutual Endearments, for near Seven Years, in which Time we added Two likely Girls and a Boy to the Family of the Dogoods: But alas! When my Sun was in its meridian Altitude, inexorable unrelenting Death, as if he had envy'd my Happiness and Tranquility, and resolv'd to make me entirely miserable by the Loss of so good an Husband, hastened his Flight to the Heavenly World, by a sudden unexpected Departure from this. I have now remained in a State of Widowhood for several Years, but it is a State I never much admir'd, and I am apt to fancy that I could be easily perswaded to marry again, provided I was sure of a good-humour'd, sober, agreeable Companion: But one, even with these few good Qualities, being hard to find, I have lately relinquish'd all Thoughts of that Nature.

At present I pass away my leisure Hours in Conversation, either with my honest Neighbour Rusticus and his Family, or with the ingenious Minister of our Town, who now lodges at my House, and by whose Assistance I intend now and then to beautify my Writings with a Sentence or two in the learned Languages, which will not only be fashionable, and pleasing to those who do not understand it, but will likewise be very ornamental.

I shall conclude this with my own Character, which (one would think) I should be best able to give. *Know then,* That I am an Enemy to Vice, and a Friend to Vertue. I am one of an extensive Charity, and a great Forgiver of *private* Injuries: A hearty Lover of the Clergy and all good Men, and a mortal Enemy to arbitrary Government and unlimited Power. I am naturally very jealous for the Rights and Liberties of my Country; and the least appearance of an Incroachment on those invaluable Priviledges, is apt to make my Blood boil exceedingly. I have likewise a natural Inclination to observe and reprove the Faults of others, at which I have an excellent Faculty. I speak this by Way of Warning to all such whose Offences shall come under my Cognizance, for I never intend to wrap my Talent in a Napkin. To be brief; I am courteous and affable, good humour'd (unless I am first provok'd,) and handsome, and sometimes witty, but always, Sir,

Your Friend and Humble Servant,

SILENCE DOGOOD.

接著，就請妳來解開最後一道謎底...

輸入說明：

1. 第一行為數字 n：表示信件內容片段，共 n 行。
2. 接下來 n 行：代表 ***Silence Dogood*** 的信件內容片段。
3. 第 n+2 行為數字 m：代表線索有幾則。
4. 接下來 m 行：每一行有 3 個數字 s p q (為獨立宣言背後的神秘數字)。 s 代表信件片段中的第 s 行，p q 代表信件中的第 p 個字開始(不包含空白)，共有 q 個字。

輸出說明：

輸出 m 個線索字串，以空白格開。

範例輸入：

5

Histories of Lives are seldom entertaining, unless they contain something either admirable or exemplar: And since there is little or nothing of this Nature in my own Adventures, I will not tire your Readers with tedious Particulars of no Consequence, but will briefly, and in as few Words as possible, relate the most material Occurrences of my Life, and according to my Promise, confine all to this Letter.

4

2 48 6

3 45 11

4 41 11

5 1 7

範例輸出：

Nature Consequence Occurrences Promise

Problem D: The Hamming Distance

漢明碼 (Hamming Code) 是在電信領域的一種線性偵錯碼，以發明者Richard Hamming的名字命名。漢明碼在傳輸的訊息流中插入驗證碼，以偵測並更正單一位元錯誤。當傳送端與接收端的位元樣式的漢明距離 (Hamming distance) 小於或等於1時（僅有 1 bit 發生錯誤），可實現可靠的通訊。

什麼是漢明距離 (Hamming distance)呢? 給定兩個相同長度的漢明碼，比較他們在相同位置的內容，並計算各位置內容不一樣的總數，我們稱該數為它們之間的 Hamming distance，我們可以藉此了解這兩個漢明碼的相異程度。

本任務可以經由對漢明碼中各相同位置字元作 XOR 的運算或者做 2 進位的相加（但不進位）而得到。以下的例子為兩個長度為 10 的 兩個字串A、B 經過 XOR 運算。可以看出共有 6 個 1，所以其 Hamming distance 為 6。

【註】：XOR 運算是指兩個binary字元互斥時，結果為1，相同時結果為0。

A　0 1 0 0 1 0 1 0 0 0

B　1 1 0 1 0 1 0 1 0 0

A XOR B = 1 0 0 1 1 1 1 1 0 0

現在，妳的任務是給妳字串的長度（N）及10 進位的兩數 a, b，試計算此2 數的 Hamming distance（H）。妳必須先將 a, b 兩數轉換為N 個位元的二進位數值 A, B。

例如： N=10, a = 296, b=852 , 則 A = 0100101000, B =1101010100

H(a,b) = H(A XOR B) = H(0100101000 XOR 1101010100) = H(1001111100) = 6

輸入說明

1. 輸入的第一列有一個正整數，代表以下有多少組測試資料。
2. 每組測試資料一列，含有3 個正整數N、a、b（1 <= N < 64，0<=a, b<2^{64}）。
   N 代表字串的位元數，a、b 代表欲比較的2 數。請參考**範例輸入**。

輸出說明

對每一組測試資料，輸出 a, b 兩數之 Hamming distance。

範例輸入

```
2
5 10 20
10 45 78
```

範例輸出

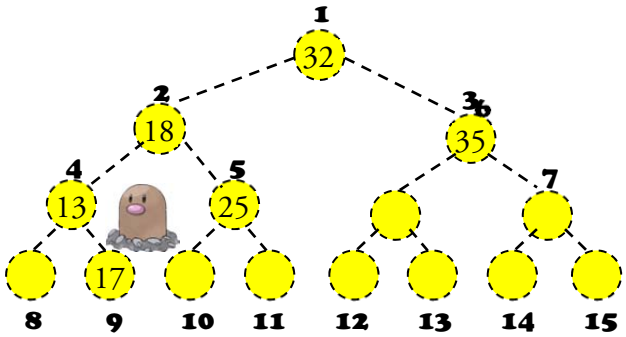
```
4
4
```

Problem E: Diglett

在林肯公園裡，有一隻可愛的 Diglett，牠是神奇寶貝家族的小地鼠，可以以像光一般的速度在地底下四處鑽洞，喜歡把收集來的寶物藏在地底的儲藏室。

Diglett 的儲藏室有 15 個，每一個儲藏室都有編號(如下圖)。
聰明的 Diglett，為了方便日後尋找收集來的寶物，牠每一次藏東西，就會依照一個規則：
看看儲藏室是否有空間：有，則放進去；無，則檢查看看：
若寶物和儲藏室裡的寶物一樣大，或比儲藏室裡的寶物小，就往更深的左下方地底儲藏室看看；
若寶物比儲藏室裡的寶物大，就往更深的右下方地底儲藏室看看。

例如：現在的寶物依序是 32 35 18 13 25 17
Diglett 平常會像這樣藏：
32 先放在 1 號儲藏室
35 比 32 大，放在右下儲藏室(3 號)
18 比 32 小，放在左下儲藏室(2 號)
13 比 32 小、比 18 小，放在(左下、左下)4 號
以此類推…



我們會得到一張寶物位置表為
32 18 35 13 25 0 0 0 17 0 0 0 0 0 0

今天 Diglett 出遠門去了，特別請妳來幫忙藏寶物。妳要記得照牠的規則存放，並且幫牠建立一張位置表哦!

範例輸入 1：(依序收集來的寶物大小)
32 35 18 13 25 17
範例輸出 1：(寶物位置表)
32 18 35 13 25 0 0 0 17 0 0 0 0 0 0

範例輸入 2：(依序收集來的寶物大小)
65 38 19 20 72 46 18 70 52 90
範例輸出 2：(寶物位置表)
65 38 72 19 46 70 90 18 20 0 52 0 0 0 0

7

3.1415929

8

3.14159292

50

3.14159292035398230088495575221238938053097345132743

100

3.1415929203539823008849557522123893805309734513274336283185840707964601769911504
424778761061946902654

1024

3.1415929203539823008849557522123893805309734513274336283185840707964601769911504
4247787610619469026548672566371681415929203539823008849557522123893805309734513 2
7433628318584070796460176991150442477876106194690265486725663716814159292035398 2
3008849557522123893805309734513274336283185840707964601769911504424778761061946 9
0265486725663716814159292035398230088495575221238938053097345132743362831858407 0
7964601769911504424778761061946902654867256637168141592920353982300884955752212 3
8938053097345132743362831858407079646017699115044247787610619469026548672566371 6
8141592920353982300884955752212389380530973451327433628318584070796460176991150 4
4247787610619469026548672566371681415929203539823008849557522123893805309734513 2
7433628318584070796460176991150442477876106194690265486725663716814159292035398 2
3008849557522123893805309734513274336283185840707964601769911504424778761061946 9
0265486725663716814159292035398230088495575221238938053097345132743362831858407 0
796460176991150442477876106194690265486725663716814159292035398 23

3
24 45 53
3

6
24 45 53 61 31 35
5

12
22 22 22 22 22 22 22 22 22 22 22 22
12

15
22 22 22 22 22 23 32 33 34 35 36 37 38 39 40
9

6
22 22 23 32 33 34
5

6
22 22 23 32 33 54
4

5

Histories of Lives are seldom entertaining, unless they contain something either admirable or exemplar: And since there is little or nothing of this Nature in my own Adventures, I will not tire your Readers with tedious Particulars of no Consequence, but will briefly, and in as few Words as possible, relate the most material Occurrences of my Life, and according to my Promise, confine all to this Letter.

4

2 48 6

3 45 11

4 41 11

5 1 7

Nature Consequence Occurrences Promise

8

This unexpected Match was very astonishing to all the Country round about, and served to furnish them with Discourse for a long Time after; some approving it, others disliking it, as they were led by their various Fancies and Inclinations.

We lived happily together in the Heighth of conjugal Love and mutual Endearments, for near Seven Years, in which Time we added Two likely Girls and a Boy to the Family of the Dogoods: But alas! When my Sun was in its meridian Altitude, inexorable unrelenting Death, as if he had envy'd my Happiness and Tranquility, and resolv'd to make me entirely miserable by the Loss of so good an Husband, hastened his Flight to the Heavenly World.

6

1 15 5

1 46 7

3 46 7

4 45 4

5 46 5

8 67 5

Match Country Fancies Girls World

5

Histories of Lives are seldom entertaining, unless they contain something either admirable or exemplar: And since there is little or nothing of this Nature in my own Adventures, I will not tire your Readers with tedious Particulars of no Consequence, but will briefly, and in as few Words as possible, relate the most material Occurrences of my Life, and according to my Promise, confine all to this Letter.

4

2 48 6

3 45 11

4 41 11

5 1 7

Nature Consequence Occurrences Promise

59

Guiyu, China (CNN) -- Did you ever wonder what happens to your old laptop or cellphone when you throw it away?

Chances are some of your old electronic junk will end up in China.

According to a recent United Nations report, "China now appears to be the largest e-waste dumping site in the world."

E-waste, or electronic waste, consists of everything from scrapped TVs, refrigerators and air conditioners to that old desktop computer that may be collecting dust in your closet.

Many of these gadgets were initially manufactured in China. Through a strange twist of global economics, much of this electronic junk returns to China to die.

"According to United Nations data, about 70% of electronic waste globally generated ended up in China," said Ma Tianjie, a spokesman for the Beijing office of Greenpeace.

Much of [the e-waste] comes through illegal channels ... from developed countries like the United States to countries like China and Vietnam

Ma Tianjie, Greenpeace

"Much of [the e-waste] comes through illegal channels because under United Nations conventions, there is a specific ban on electronic waste being transferred from developed countries like the United States to countries like China and Vietnam."

For the past decade, the southeastern town of Guiyu, nestled in China's main manufacturing zone, has been a major hub for the disposal of e-waste. Hundreds of thousands of people here have become experts at dismantling the world's electronic junk.

On seemingly every street, laborers sit on the pavement outside workshops ripping out the guts of household appliances with hammers and drills. The roads in Guiyu are lined with bundles of plastic,

wires, cables and other garbage. Different components are separated based on their value and potential for re-sale. On one street sits a pile of green and gold circuit boards. On another, the metal cases of desktop computers.

At times, it looks like workers are reaping some giant plastic harvest, especially when women stand on roadsides raking ankle-deep "fields" of plastic chips.

In one workshop, men sliced open sacks of these plastic chips, which they then poured into large vats of fluid. They then used shovels and their bare hands to stir this synthetic stew.

"We sell this plastic to Foxconn," one of the workers said, referring to a Taiwanese company that manufactures products for many global electronics companies, including Apple, Dell and Hewlett-Packard.

Dirty, dangerous work

This may be one of the world's largest informal recycling operations for electronic waste. In one family-run garage, workers seemed to specialize in sorting plastic from old televisions and cars into different baskets. "If this plastic cup has a hole in it, you throw it away," said a man who ran the operation, pointing to a pink plastic mug. "We take it and re-sell it."

But recycling in Guiyu is dirty, dangerous work. "When recycling is done properly, it's a good thing for the environment," said Ma, the Greenpeace spokesman in Beijing.

"But when recycling is done in primitive ways like we have seen in China with the electronic waste, it is hugely devastating for the local environment."

Matchmaking: Chinese style Baby rescued from toilet pipe Cracking China's film market Backlash against Chinese tourists

According to the April 2013 U.N. report "E-Waste in China," Guiyu suffered an "environmental calamity" as a result of the wide-scale e-waste disposal industry in the area.

Much of the toxic pollution comes from burning circuit boards, plastic and copper wires, or washing them with hydrochloric acid to recover valuable metals like copper and steel. In doing so, workshops contaminate workers and the environment with toxic heavy metals like lead, beryllium and cadmium, while also releasing hydrocarbon ashes into the air, water and soil, the report said.

For first-time visitors to Guiyu, the air leaves a burning sensation in the eyes and nostrils.

Toxic tech

Studies by the Shantou University Medical College revealed that many children tested in Guiyu had higher than average levels of lead in their blood, which can stunt the development of the brain and central nervous system.

Piles of technological scrap had been dumped in a muddy field just outside of town. There, water buffalo grazed and soaked themselves in ponds surrounded by piles of electronic components with labels like Hewlett-Packard, IBM, Epson and Dell.

The enormous animals casually stomped through mounds of sheet glass, which clearly had been removed from video monitors.

Flat screen displays often use mercury, a highly toxic metal.

"Releases of mercury can occur during the dismantling of equipment such as flat screen displays," wrote Greenpeace, in a report titled "Toxic Tech." "Incineration or landfilling can also result in releases of mercury to the environment...that can bioaccumulate and biomagnify to high levels in food chains, particularly in fish."

Most of the workers in Guiyu involved in the e-waste business are migrants from destitute regions of China and poorly educated. Many of them downplayed the potential damage the industry could cause to their health.

They asked only to use their family names, to protect their identity.

It may not sound nice, but we don't dare eat the rice that we farm because it's planted here with all the pollution

Zhou, a local farmer

"Of course it isn't healthy," said Lu, a woman who was rapidly sorting plastic shards from devices like computer keyboards, remote controls and even computer mice. She and her colleagues burned plastic using lighters and blow-torches to identify different kinds of material.

"But there are families that have lived here for generations ... and there is little impact on their health," she said.

Several migrants said that while the work is tough, it allows them more freedom than working on factory lines where young children are not permitted to enter the premises and working hours are stringent.

Used to be worse

Despite the environmental degradation and toxic fumes permeating the air, many in Guiyu said that conditions have improved dramatically over the years.

"I remember in 2007, when I first came here, there was a flood of trash," said Wong, a 20-year-old man who ferried bundles of electronic waste around on a motorcycle with a trailer attached to it.

"Before people were washing metals, burning things and it severely damaged people's lungs," Wong added. "But now, compared to before, the [authorities] have cracked down pretty hard."

But residents who did not work in the e-waste business offered a very different take on the pollution in Guiyu.

A group of farmers who had migrated from neighboring Guangxi province to cultivate rice in Guiyu told CNN they did not dare drink the local well water.

They claimed if they tried to wash clothes and linens with the water, it turned fabrics yellow.

The head of the group, who identified himself as Zhou, had another shocking admission.

"It may not sound nice, but we don't dare eat the rice that we farm because it's planted here with all the pollution," Zhou said, pointing at water-logged rice paddy next to him.

Pollution causing cancer in this village? Build it, and will they come in China? What is the 'Chinese Dream?' China's bling dynasty

Asked who did eat the harvested rice, Zhou answered: "How should I know? A lot of it is sold off ... they don't dare label the rice from here as 'grown in Guiyu.' They'll write that its rice from some

other place."
Not that surprising considering that the latest food scandal to hit the country earlier this month is cadmium-laced rice. Officials in Guangzhou city, roughly 400 kilometers away from Guiyu, found high rates of cadmium in rice and rice products. According to the city's Food and Drug Administration samples pulled from a local restaurant, food seller and two university canteens showed high levels of cadmium in rice and rice noodles. Officials did not specify how the contaminated rice entered the city's food supply.
CNN made several attempts to contact the Guiyu town government. Government officials refused to comment on the electronic waste issue and hung up the phone.
However, it did appear that government efforts to restrict imports of foreign waste are reducing the flow of e-trash here.
"Why are they stopping the garbage from reaching us?" asked one man who ran a plastic sorting workshop. "Of course it's hurting our business," he added.
Domestic e-waste grows
The Chinese government had some success regulating e-waste disposal with a "Home Appliance Old for New Rebate Program," which was tested from 2009 to 2011.
With the help of generous government subsidies, the program collected tens of millions of obsolete home appliances, according to the U.N.
Even if Chinese authorities succeed in limiting smuggled supplies of foreign garbage, the U.N. warns that the country is rapidly generating its own supply of e-waste.
"Domestic generation of e-waste has risen rapidly as a result of technological and economic development," the U.N. reported. It cited statistics showing an exponential surge in sales of TV's, refrigerators, washing machines, air conditioners and computers in China over a 16-year period.
To avoid a vicious cycle of pollution, resulting from both the manufacture and disposal of appliances, Greenpeace has lobbied for manufacturers to use fewer toxic chemicals in their products.
The organization also has a message for consumers who seem to swap their phones, tablets and other computer devices with increasing frequency.
"Think about where your mobile phone or where your gadgets go," said Ma, the Greenpeace activist. "When you think about changing [your phone], or buying a new product, always think about the footprint that you put on this planet."
9
16 1 4
4 31 2
35 113 3
47 270 1
25 47 5
52 103 5
24 131 3

46 117 4
31 39 4

This is not a field which can grow rice

2
5 10 20
10 45 78
4
4

3
4 1 2
50 13412314 14432
60 244294 13412314
2
15
14

5
10 125 48
20 525 610
30 45124114 124531124
5 10 20
10 45 78
4
6
17
4
4

5
16 65535 128
16 65535 127
15 32766 32767
15 255 32767
9 510 509
15
9

1
7
2

3
63 1152921504606846975 5764607523034234 87
63 1152921504606846975 0
63 1152921504606846976 1073741823
1
60
31

Test Data - PE

輸入：(依序收集來的寶物大小)

32 35 18 13 25 17

輸出：(寶物位置表)

32 18 35 13 25 0 0 0 17 0 0 0 0 0 0

輸入：(依序收集來的寶物大小)

65 38 19 20 72 46 18 70 52 90

輸出：(寶物位置表)

65 38 72 19 46 70 90 18 20 0 52 0 0 0 0

輸入：(依序收集來的寶物大小)

48 59 67 72 58 30 24 37 50 32 10

輸出：(寶物位置表)

48 30 59 24 37 58 67 10 0 32 0 50 0 0 72

輸入：(依序收集來的寶物大小)

76 58 89 70 63 80

輸出：(寶物位置表)

76 58 89 0 70 80 0 0 0 63 0 0 0 0 0

輸入：(依序收集來的寶物大小)

48 60 67 72 58 30 24 37 50 32 10 25 45 59 63

輸出：(寶物位置表)

48 30 60 24 37 58 67 10 25 32 45 50 59 63 72
