# Problem 1 – Kermen

The city of Kermen is very traditional and people there are living still in the socialist epoch, so they don’t want to change. Stereotypes are all around.

An ordinary home in Kermen consists of fixed things depending on some conditions.

A **young couple’s** home has **two** rooms, a TV, fridge and a laptop per person. **Room’s electricity cost is: 20.**

A **young couple with children** has **two** rooms, a TV, fridge, laptop per each adult and toys for each child. **Room’s electricity cost is: 30.**

An **alone young person** has **a** room and a laptop**. Room’s electricity cost is: 10.**

An **old couple** has **three** rooms, a TV, fridge and stove. **Room’s electricity cost is: 15.**

An **alone old person** has **a** room and only memories of the past life. **Room’s electricity cost is: 15.**

Each laptop, TV, fridge or stove has certain **electricity cost**. Each room has fixed light’s electricity cost. Each adult has either salary or pension depending if it’s young or old. Each child consumes money for food and toys.

You will receive the whole population of Kermen from the standard input as homes information (consider there are no homeless people, because in the socialism everyone is equal). Consider each three input lines as a whole month, thus each person in Kermen receives either a salary or a pension.

Everytime you receive the command “**EVN**” you need to print the total consumption of electricity and food/toys cost in Kermen.

Everytime you receive the command “**EVN bill**” you need to take the money for the electricity and their children food and toys consumption from the homes’ budget (the home’s budget is the sum of all money of the people living there). If they are not able to pay their bill, they are forced to emigrate and no will no longer be part of in Kermen.

The input sequence **ends** when you receive the command “**Democracy**”. Afterwards you need to print the whole population count (people and their children).

### Register Home Commands

**YoungCouple(salary1, salary2) TV(electricityCost) Fridge(electrictyCost) Laptop(electricityCost)** – registers an young couple in Kermen with their home’s inventory.

**YoungCoupleWithChildren(salary1, salary2) TV(electricityCost) Fridge(electrictyCost) Laptop(electricityCost) Child(foodCost, toy1Cost, toy2Cost…, toy3NCost) Child(foodCost, toy1Cost, toy2Cost…, toy3NCost)** – registers an young couple in Kermen with their home’s inventory and arbitrary number of children with their food cost and arbitrary number of toys cost

**AloneYoung(salary) Laptop(electricityCost) –** registers and alone young person with its home’s inventory.

**OldCouple(pension1, pension2) TV(electricityCost) Fridge(electrictyCost) Stove(electricityCost)** – registers an old couple in Kermen with their home’s inventory

**AloneOld(pension) GoodOldTimes()** – registers an alone old person with its home.

### Input

* Each command will come on a new line
* The input ends when you receive the command “**Democracy**”.
* The input will be no more than **500** lines

### Implementation

* Classes Names

Think what kind of ierarchy you will need and use these names for your classes (if you want max result).

* + AloneOldHome
  + AloneYoungHome
  + OldCoupleHome
  + YoungCoupleHome
  + YoungCoupleWithChildrenHome
  + Home
  + HomeFactory
  + Device
  + Toy
  + Person
  + Child
  + Room
  + City
* Properties
  + Properties have to be encanpsulated
  + Properties have to have proper names (not **djydjybydjy)**
* Inheritance
  + You need to build proper Inheritance with these classes
  + Think abstractly
  + Don’t be afraid from polymorphism it will give you more points

### Output

* Printing total consumption must be in format “Total consumption: ” + {consumption}
* Printing total population must be in format “Total population: %d”

### Constraints

* Each cost, pension and salary will be valid 64 bit floating point number
* If “**EVN bill”** is third command – pay salaries first
* If **home registration** is third command – register the home first

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| **YoungCouple(22, 25) TV(1.5) Fridge(1.2) Laptop(1)**  **YoungCouple(22, 24) TV(1.5) Fridge(1.2) Laptop(1)**  **YoungCouple(22, 22) TV(1.5) Fridge(1.2) Laptop(1)**  **EVN bill**  **Democracy** | **Total population: 4** |
| **Comment** | |
| **GREEN LINE – Salaries are paid, because it’s a third line.**  **RED LINE** – Bills are paid. Third young couple cannot pay their bills, thus they are removed from the population (salary: 22+22 = 44; bills: 1.5 + 1.2 + 1 + 1 (laptop per each) + 20 + 20 (rooms) = 44.7) | |

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | |
| **YoungCouple(22, 25) TV(1.5) Fridge(1.2) Laptop(1)**  **YoungCouple(22, 24) TV(1.5) Fridge(1.2) Laptop(1)**  **YoungCouple(22, 22) TV(1.5) Fridge(1.2) Laptop(1)**  **YoungCoupleWithChildren(130, 130) TV(2) Fridge(4) Laptop(4) Child(10, 5, 6, 7, 8) Child(10, 5, 5) Child(10, 5)**  **EVN**  **EVN**  **EVN bill**  **Democracy** | | **Total consumption: 279.1**  **Total consumption: 279.1**  **Total population: 11** |