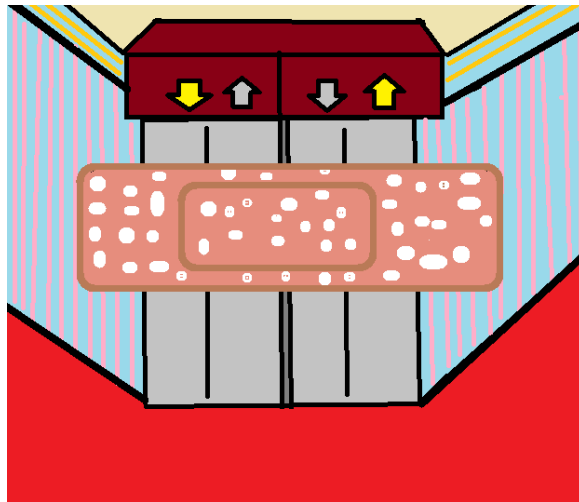


The Great Lift Problem

A KS2 choose-your-own-adventure in User Requirements



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This choose your own adventure has been written as part of a Masters dissertation in Computing for the Open University.

Page 1



You are The Big Boss of a software company.

You work in a grand office with a view of the park.

You have your own mug with The Big Boss written on it that was a Christmas present last year, and you have a huge comfy chair that swivels and is on wheels and goes up and down.

One day, the phone rings. You answer, and it is your old friend Felix. You haven't spoken to him for ages and are pleased to hear his voice, but quickly you realise that something is wrong.

“Please help me!” Says Felix. “You have all the computers and computer programmers and algorithms and everything, you can help me!”

“Calm down” you say, “and explain to me the problem”.

So Felix goes on to tell you all about The Great Lift Problem. Felix owns and manages Comfy Hotel, one of the grandest and most expensive hotels in the whole of Techville. Ten years ago he was the very first person to install lifts in a hotel in Techville and he was the talk of the town. But now, everyone has lifts. But worse, everyone else has better lifts. Customers have started complaining that the lifts at Comfy Hotel are too slow. Fewer people are booking in. The hotel is losing money. Help!

What will you do?

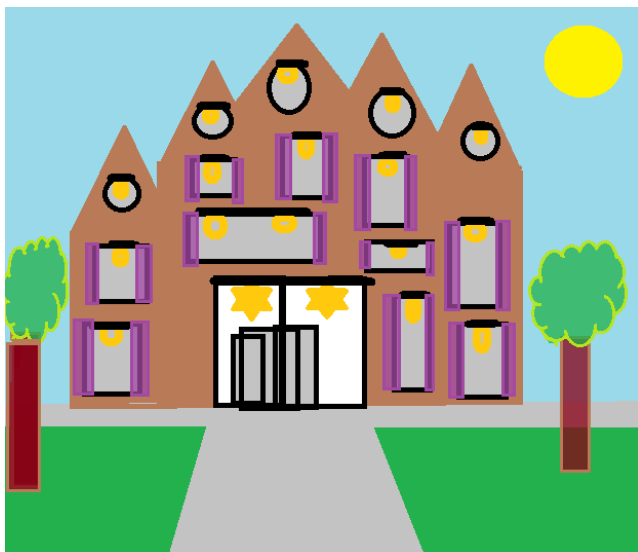
- If you decide to go and visit Felix at Comfy Hotel now, go to [Page 3](#)
- If you decide not to help out an old friend, go to [Page 2](#)



Oh, that is a shame that you have decided not to help out Felix.
Sometimes it is worth just having a go at something, even if we don't know what is involved or how it is going to turn out.
Oh well, let's hope Felix finds someone else to help him, your adventure in this story now is over.

THE END

Page 3



As you shake Felix's hand in his office you realise you have been neglecting your old friend. He offers you a cup of tea and explains the problem. It's simple. There are just 2 lifts serving the 10 floors of the hotel. The customers are complaining that the lifts are too slow!

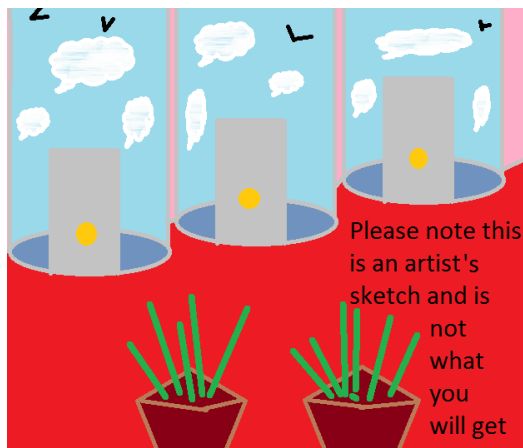
There have been so many complaints, more about that than any other single thing (not even as many customers complained when Felix's son Billy accidentally let his pet rat out in the restaurant!)

Now Felix is asking you – what should he do?

What will you say?

- If you tell him that he needs to build another lift, go to [Page 4](#)
- If you tell him that you will try to speed up the lift by changing the code, go to [Page 5](#)
- If you tell him that you would like to spend a day observing the lift use, go to [Page 6](#)

Page 4



Brilliant, there couldn't be a simpler solution!

You are not exactly an expert on building lifts, true, but you know all about optimisation and workflow. If this was a computer system you'd just code in another one!

You get in Polite Building Corps to give you a quote and then you go and discuss it with Felix.

Polite Building Corps have created a nice big glossy package for you and Felix to look through. They have some artists' pictures of what the finished 3 lifts will look like and they do look brilliant, you are feeling very pleased. Until Felix spots the quote at the end.

"It estimates that it will take a year!" says Felix!

"Goodness" you exclaim "and it's sure to be even longer..."

"Well my friend" says Felix, "I trust you and I'm sure you know better than me. What shall I do?"

What will you advise?

- If you stick to it and suggest he install the new lift go to [Page 7](#)
- If you suggest you try to speed up the algorithm go to [Page 5](#)
- If you decide it's time to spend a day observing the lift go to [Page 6](#)

Page 5



The lift computer code, the algorithm, was written 10 years ago!

It was written in a coding language you know quite well because you were a student even before that, but hardly any of your staff know it. They all do much more modern things.

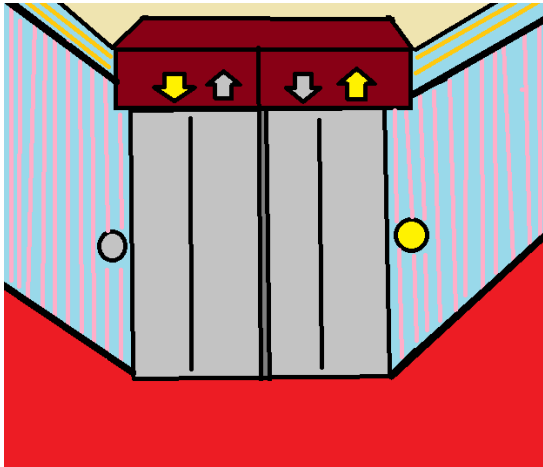
That's ok, you can look at it yourself, you are happy to help on old friend, though it is quite complicated, and you can't quite understand all of the code.

There seems to be a particularly complicated bit you might just rewrite differently although you are not sure what it is really supposed to do...

What do you think?

- If you decide to keep on with the code even though it is very complicated go to [Page 8](#)
- If you tell him that he needs to build another lift go to [Page 4](#)
- If you tell him that you would like to spend a day observing the lift use go to [Page 6](#)

Page 6



A day observing, it seems almost like a waste of your time!

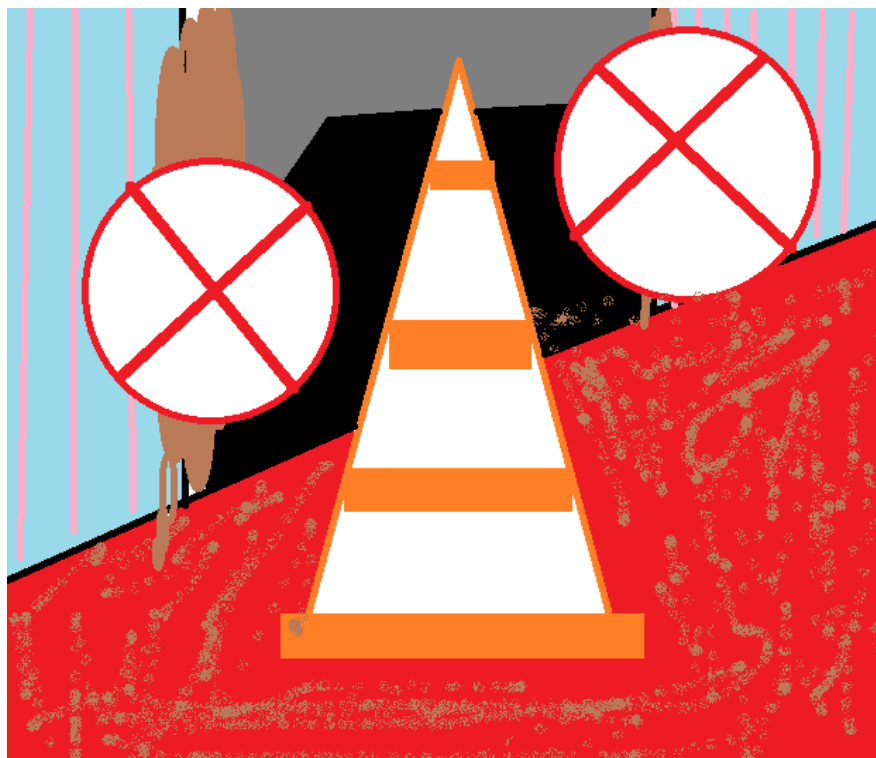
You spend so much of your time rushing here there to and from meetings can this really be worthwhile? You decide to start off in the lobby and time how long it takes for the lift to come for every person.

From time to time Felix's wife Karen, who is the staff manager of the hotel, brings you a cup of tea and a biscuit – ahh it's not so bad after all.

By lunch time you have timed 20 people taking the lift, and on average each of them has to wait 3 minutes. You decide to spend the rest of the afternoon on different floors, although it is a bit difficult guessing which floor to be on, so you set up on the 10th. You only see 3 people (and they do wonder why you are sitting next to the lift with a cup of tea), and the lift times are instant, 5 minutes and 2 minutes.

So, what does all this mean?

- If you decide there is nothing wrong with the lifts after all go to [Page 9](#)
- If you decide you'd like to talk to some of the guests go to [Page 10](#)



So, this is the plan, a year spent building a new lift, it's got to be better, you are sure it is the simplest solution, the brochure's look super.

But, well, unfortunately things don't go

quite so well. Customers are already a bit fed up with the hotel, but once the building works starts...oh dear the noise! The dust! And sometimes none of the lifts work at all!

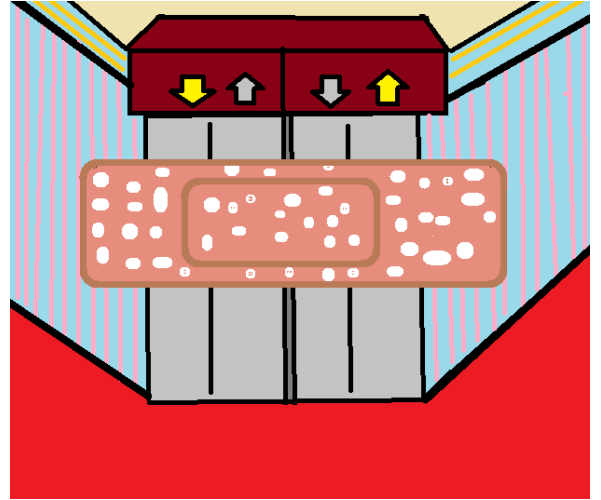
Over the year poor old Felix slowly loses all of his customers and in the end he has to close Comfy Hotel before the lift is even finished.

Well, it wasn't your fault, you did do your best to help him didn't you?

THE END

Page 8

Finally, you have it cracked, you understand the code and you are sure you've improved it. You install it onto Felix's lift system and send Felix a bill for your time. You don't hear anything from Felix for a while, so eventually you phone him. He sounds slightly embarrassed when you ask how things are. Nothing's changed, he says, the customers are complaining as much as ever. Oh dear.



Can you do anything more?

- If you decide you've done all you can, go to page [Page 2](#)
- If you think perhaps he needs to build another lift go to page [Page 4](#)
- If you decide to spend a day observing the lift use go to page [Page 6](#)

Page 9

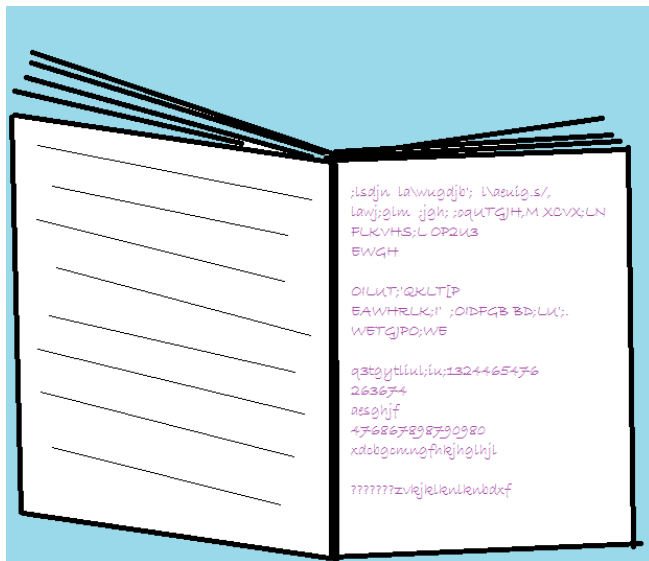


Well, there's nothing wrong with the lifts after all. The customers are simply wrong and there is no point in you wasting any more time on it. You are sorry to tell Felix that his customers are wrong, but that is just the way it is. Poor Felix, Comfy Hotel continues to lose money, and

once more you lose touch with your friend.

THE END

Page 10



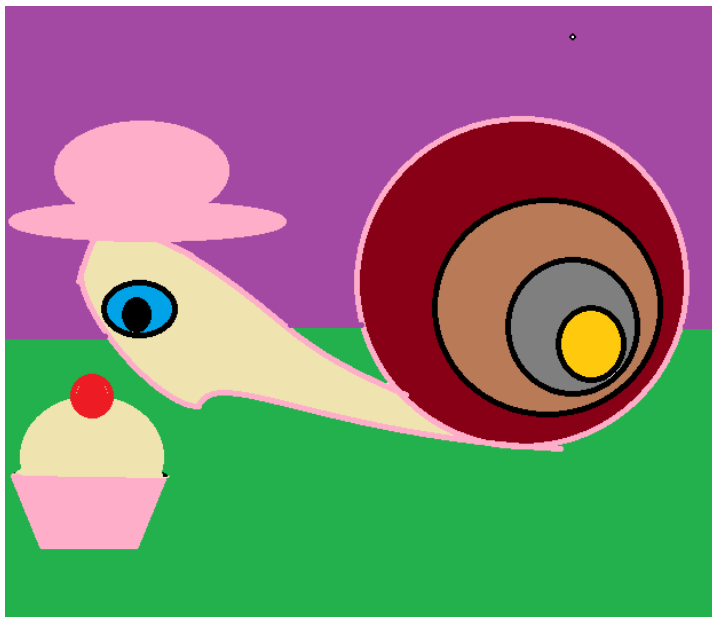
What a good idea to talk to the guests! But not all of them are very friendly. Karen looks through the guest list and decides against Mr Blue and Mr Grey who have come to the conference on Bio Fuels because they always seem in such a hurry. The family in

room 56 have a screaming baby so Karen thinks they might be best left alone...finally she decides that there are 2 people you can talk to. Old Mrs Slowmore, the friendly old lady who lives on the 10th floor with her parrot and her poodle. And Mr Rushmore, a rather fierce looking business man who owes Felix a favour.

Who would you like to talk to?

- If you decide to talk to Old Mrs Slowmore go to [Page 11](#)
- If you decide to talk to Mr Rushmore go to [Page 12](#)

Page 11



Mrs Slowmore is a lovely old lady. You meet her in the restaurant and you both have tea and cakes on the house while she shows you photos of her grandchildren. Eventually you manage to steer her to the subject of the slow lifts – she has never complained

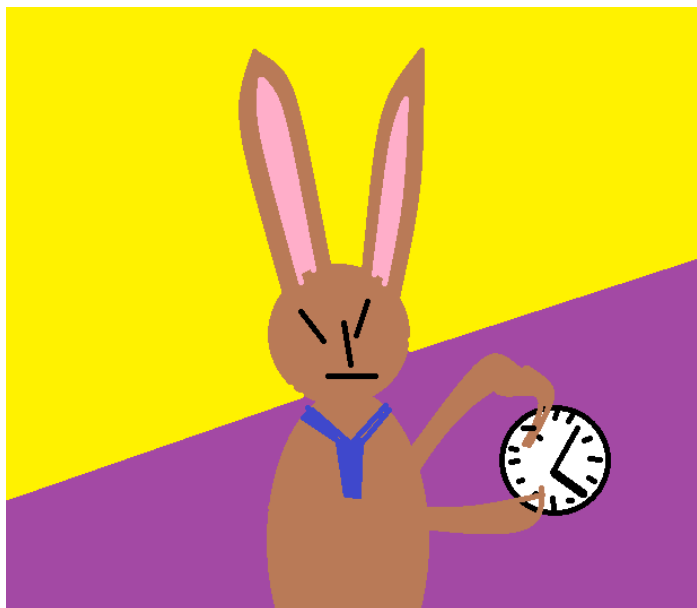
she stresses! But does she think the lifts are slow. “Oh they are terrible!” she exclaims. “Dreadful! Never have I known lifts like it! Not like those lovely lifts at Le Grand Store!”. “Le Grande Store? The luxury department store on 12th and 14th street?” you ask. “Oh yes! They are marvellous!” she smiles. Interesting.

You finish your tea and cakes and then decide what to do next.

- If you decide to talk to Mr Rushmore go to [Page 12](#)
- If you decide to visit Le Grande Store go to [Page 13](#)
- If you’ve spoken to both the guests and would like to have a little think go to [Page 14](#)

Page 12

Mr Rushmore seems to be in an absolutely terrible mood. He is prepared to talk to you for only as long as it takes to get in the lift and go up to his room on the 7th floor. “Plenty of time” he quips, though by your estimation it is likely to be about 4 minutes.

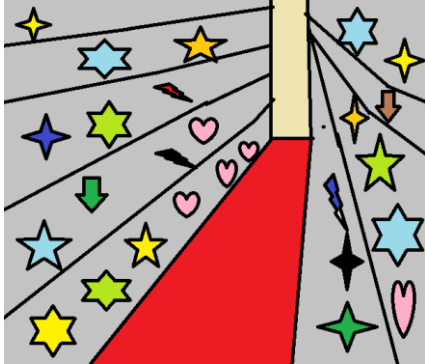


During your tense journey up the lift with Mr Rushmore you observe him try to make a phone call while in the middle of talking to you, and then cursing because there is no reception. Even though the lift comes almost straight away nothing seems to make him happy and he shuts his door in your face. You are beginning to feel that the customer might not always be right.

What now?

- If you decide to talk to Mrs Slowmore go to [Page 11](#)
- If you think Felix needs to do something about the mobile phone reception go to [Page 15](#)
- If you've spoken to both the guests and would like to have a little think go to [Page 14](#)

Page 13



Ah what a wonderful place! You feel like a child in a toy shop! So many beautiful and wonderful things to buy, the displays all gold and silver and sparkling, you are not surprised Mrs Slowmore likes it here – but what about the lifts? You decide to do

something similar to your observation at Comfy Hotel. You stand by the lifts on the ground floor and time how long it takes for the lifts to come. This is not quite as nice as sitting in the Comfy Hotel with tea and biscuits but it is for a friend. By lunch time you are making a surprising discovery – it seems to be roughly 3 minutes for a lift to come, the same as Comfy Hotel. You go to another floor after lunch (you treat yourself to a delicious lunch in the café). The same thing, 3 minutes, this is very strange.

What do you make of all this?

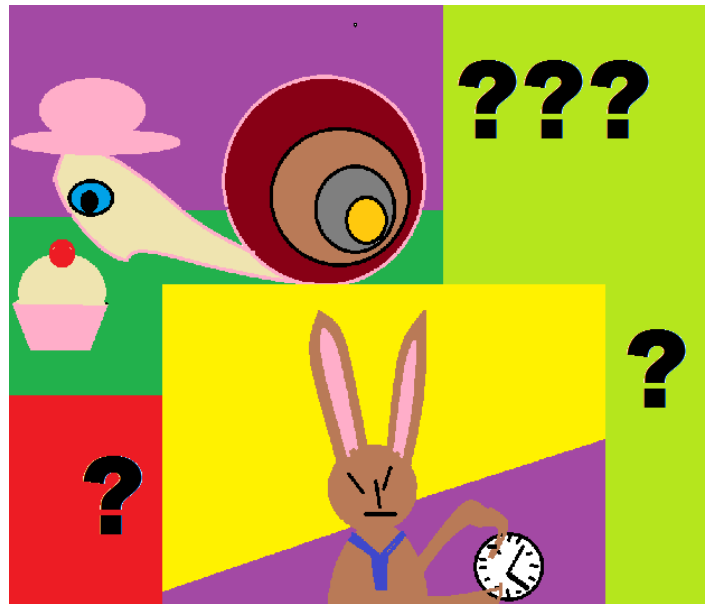
- If you think the customers are wrong because the lift is the same speed go to [Page 9](#)
- If you think there's something you must be missing, go to [Page 16](#)

Page 14

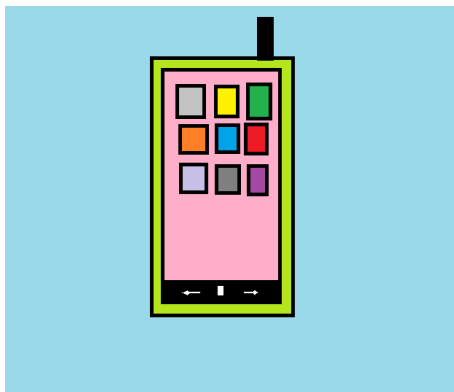
So where are we, let's have a think. You've spoken to two guests who were quite different. Mrs Slowmore thinks the lifts are much better at the Le Grande Store. Mr Rushmore seemed annoyed that he couldn't get any mobile phone reception.

What now?

- If you think Felix needs to do something about the mobile phone reception go to [Page 15](#)
- If you decide to visit Le Grande Store go to [Page 13](#)



Page 15



You happen to know a bit about mobile phone boosters because you recently had to install one in your office. You phone the same company and because they know you they are able to come out the very same day and install a booster. This has got to be good! You are delighted! You tell Felix his

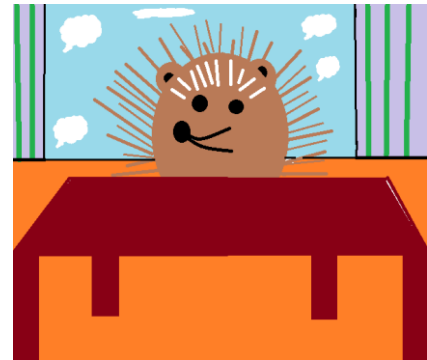
problems are over and go back to work. A few weeks later you are puzzled that you haven't heard from Felix, so you give him a call. You ask how the lifts are going and he seems a bit embarrassed. "Well, they are not actually any faster, of course, we are still getting complaints...and we have started getting complaints from some of the customers about people having loud telephone conversations in the lifts! It is really a very unsociable place to talk on the phone, people can't get away. Poor Mrs Slowmore came to me in tears after having Mr Rushmore shout at someone 30 cm away from her ears. I'm afraid it is not a great success old friend." Oh dear.

Well you've done all you can, haven't you?

- If you decide that is all you can really do, go to [Page 9](#)
- If you'd like to have another think, go to [Page 14](#)

Page 16

So this is a mystery. You visit the manager of Le Grande Store and ask about the lifts. She is an old friend, as luck would have it, so she is happy to chat with you while she looks over the next year's budget. She seems surprised about the lifts – nobody has ever complained!



And even more surprised that Felix has a problem with his. She also remembers when Felix had his lifts installed and was the talk of the town. She is as flummoxed as you. You decide to go back and watch the lifts for a little while. Not timing them this time, just watching. Funnily enough just as you take up your position (leaning slightly on a pillar as if just resting for a while) Mrs Slowmore appears. She presses the lift button, then quickly fixes her lipstick in the mirror next to the lift before it arrives. Hmm... Another customer arrives and you see him adjust his tie, and then someone pats down their hair. A child pulls faces in the mirror and a dog sniffs its own face.

Hmm... Have you spotted something interesting?

- If you decide that there is really not much more that you can do, go to [Page 9](#)
- If you think installing mirrors by the lift might help go to [Page 17](#)

Page 17

Felix thinks you are barking mad, but you explain. No it's true it won't make the lifts faster, but it will give people something to do! Try it! It will cost precisely 10 for each mirror and there are 10 floors, that is only £100. And they can all be bought from Le Grande Store and installed immediately! So, you and



Felix do it yourself, which is fun, like old times, and you're done. You give Felix a hug and back you go to your office to catch up. The next day Felix phones. "I don't believe it!" he exclaims. "Mr Rushmore was spotted smiling this morning! Apparently he was practicing it while straightening his tie in the mirror! And Mrs Slowmore said that the hotel is as glamorous as Le Grande Store!" Well, you are truly delighted with this news. You speak to Felix every week or so, getting updates on the lift and just generally chatting, and this year you hold your annual Christmas party at Comfy Hotel. It is a big success and you are glad you and Felix are friends again.

THE END