Anupam's ~ Adventure ~

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"You are standing in the office of the Adventure Agency, Limited." said the man." And what's that?" inquired Anupam. He had come there in answer to a cryptic advertisement saying that the Adventure Agency had part-time job opportunities for smart 'Agents'.It had caught his fancy and he imagined himself in the role of a great detective. He was quite disappointed to find this man who looked like a travel agent.

"Obviously you havent read G.K. Chesterton's book 'The Club of Queer Trades'." continued the man."Did you ever feel the utter hunger for something to exciting to happen and liven up your humdrum existence?", he demanded."The Adventure Agency undertakes to surround such a person with startling and weird events.As a man is leaving his house, he receives a mysterious message about a plot against his life and he finds himself immediately in a vortex of events. We give him the necessity of leaping over walls, of fighting strange gentlemen,of running down streets from pursuers--all healthy and pleasant exercises, in return for a fee." said the man.

"And what would be my role?" asked Anupam, immensely interested. The man solemnly handed him an envelope and said,"First of all, you must deliver this message to the Painted Lady at the given address, within the next half hour.If you succeed, you will become one of our highly paid Agents." Anupam looked the address: "D-1/47, Garden Cottage, Mahatma Gandhi Road. 2572-2545. 10.5.2.1".The numbers didnt make much sense but he knew M.G. Road very well, so he thought for a moment and said, "Ok, I'll do it."

He quickly went to M.G. Road and soon found Garden Cottage."Everything has been boringly normal so far. I have done it in 10 minutes." he thought as he rang the doorbell. On the door was a picture of a butterfly with the caption '10 steps to success: Cross the road.'A gruff looking man opened the door and asked "What do you want?". "I have a message for the Painted Lady." said Anupam, beginning to feel a bit foolish. "What nonsense! You are the third fellow creating such a nuisance here. I'll teach you a lesson." shouted the man and moved threateningly towards Anupam.

Rather than argue the matter, Anupam ran off thinking "Maybe there's another Garden Cottage on M.G. Road.There's more to this message than what it appears. Let me try D-1/47. That seems to be a more reliable address."
Much to his chagrin, he could not find any building numbered D-1/47. Even asking people for directions didnt help.Nobody seemed to have heard of any such number on M.G. Road. Also there was no other Garden Cottage."Maybe D-1/47 is in some building near the Garden Cottage." was his next guess.He hurried back to the start, keeping a wary lookout for the man he had met earlier. Unfortunately he could not find any D-1/47. As he passed one of the buildings across the road from Garden Cottage, he noticed another picture of a butterfly with the caption '10 steps to success: Entry here. 5 steps: Move upwards.' "Some weird advertising gimmick." he thought absently.

He looked at the address on the message again and exclaimed "Of course, 2572-2545 is a telephone number. I cancall it and find the correct address." He couldnt get any signal on his mobile phone, so he ran to a nearby PCO phone booth and called the number. The phone kept ringing at the other end but there was no answer. In the PCO, he again saw a picture of a butterfly with the caption

'10 steps to success: Go right.'It reminded him that he had only 10 minutes left. What was he to do?

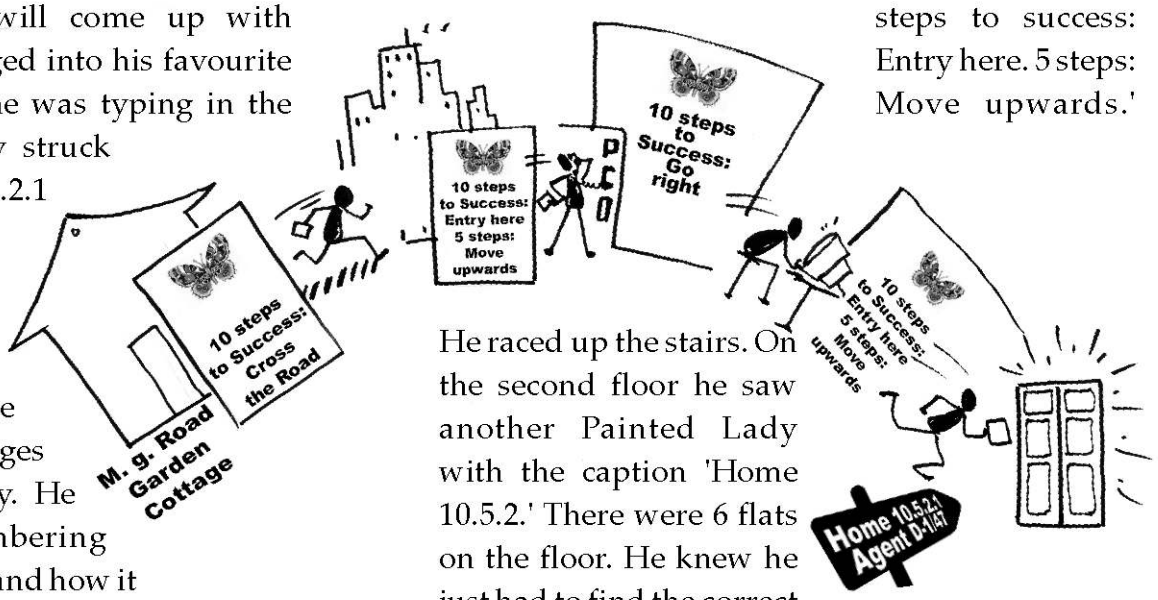
He thought of finding the address by referring to the telephone directory. The directory was sorted in alphabetical order by name. As expected, there was no one by the name Painted Lady. Now going through all the numbers looking for 2572-2545 in the hope of finding the corresponding address was a daunting task. Finding the address would have been easy if the directory had been sorted sequentially by telephone numbers!

As he stood there wondering what to do next, he saw that the PCO also had an Internet Cafe. He thought, "Let me try the address on a Internet search engine. Maybe it will come up with something." He quickly logged into his favourite site: www.google.com. As he was typing in the search address, it suddenly struck him that the numbers 10.5.2.1 resembled something called IP (Internet Protocol) addresses. He knew that each computer on the Internet had a unique IP address so that messages could be delivered correctly. He also knew that the numbering scheme was very systematic and how it was used by routers in the Internet to deliver messages efficiently.

Meanwhile, he was getting lost in his search engine. Google gave him links to thousands of webpages which had the words 'Garden Cottage' or 'Mahatma Gandhi'. However, a quick glance at the first few results told him that they were mostly irrelevant and would not lead him any closer to his quest. He had run out of ideas. There was nothing left to do but to go back to the Adventure Agency and admit defeat.

On a whim, he tried a search for 'Painted Lady'. He was amused at the results. One of them told him that the Painted Lady was a species of butterfly. He was idly looking at its picture. It looked vaguely familiar. Of course, it was the same picture he had seen earlier, in the advertising gimmick with the weird captions. In a flash, he knew he had got the key to solving the address puzzle. The Painted Lady he was seeking was the butterfly in the advertising gimmicks. Its weird captions were the directions to his real destination. He just had to follow their numbers and directions, in a manner similar to Internet routers using IP addresses to deliver messages.

He had only 2 minutes left. The Painted Lady caption in the PCO was '10 steps to success: Go right.' He ran from the PCO and turned to the right. He found himself again in front of the building having the caption '10 steps to success: Entry here. 5 steps: Move upwards.'

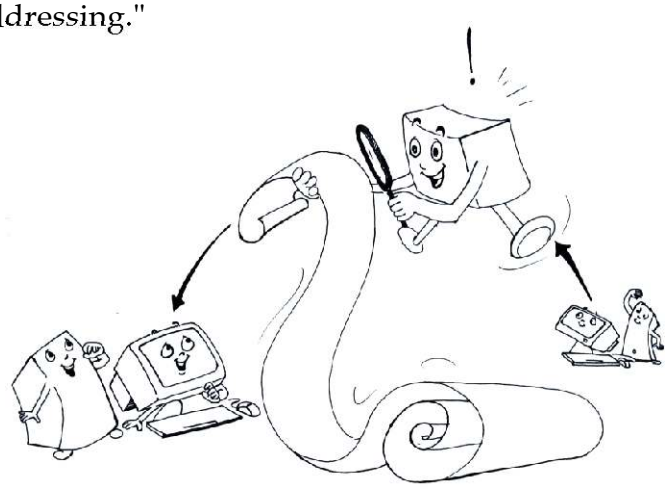


He raced up the stairs. On the second floor he saw another Painted Lady with the caption 'Home 10.5.2.' There were 6 flats on the floor. He knew he just had to find the correct flat to qualify as an Agent. Ah, there it was: '10.5.2.1. Agent D-1/47.' He was moving towards it when an insistent voice registered in his brain, "Anupam, you are already late. Get up." His eyes opened wide to find his mother shaking him awake. Was it all just a dream?

As we know, computers on the Internet are inter-connected using devices called Routers. When we send email or download a file, these routers forward each packet from its source to its final destination. In order for the packets to be delivered correctly, each computer on the Internet has a unique address. This address is called the IP (Internet Protocol) address. It is usually represented in a dotted decimal form having four parts, such as 192.168.2.254, where each part of the

address may be any number from 0 to 255. The numbering scheme is very systematic, similar to telephones and postal addresses, and enables the routers to deliver the packets efficiently.

As a telephone number has an area code and a phone number, an IP address has a network number part and a machine number. As a postal address enables postmen to gradually narrow down to any destination from City to Street to Building, the IP address enables routers to gradually forward a message from a network to sub-network to destination computer. For example, to find the house to which a letter is to be delivered, the postman first looks at that part of the address which specifies the area within the city, then he looks at the street within the area, and finally at the house number within the street. Similarly, a packet for computer with address 10.5.2.1, first reaches the network with number 10, then a router sends it on to that sub-part of network 10 which is numbered 10.5, maybe further down into another sub-network with number 10.5.2 and finally to the destination computer 10.5.2.1. Writing the address in this manner, such that it is easy to narrow down to the destination by looking at different parts of the address at each step, is called "hierarchical addressing."



While this may sound simple, a lot of intricacies have to be taken care of to ensure that the system work correctly. For example, Can two computers have the same IP address? Who ensures that each computer is assigned a unique IP address? Are there enough unique addresses to accomodate the ever increasing number of computers in the world?

IP address: A number that uniquely identifies any computer on the Internet.
It is usually represented in the dotted decimal form such as 192.168.2.254,
where each part may be any number from 0 to 255.
Routing table: A table that gives the directions for reaching any destination IP address.
Such tables are used by routers in the Internet for appropriate delivery of information.

Some interesting related websites are:
http://compnetworking.about.com/library/gateway/blip.htm
http://www.techtutorials.info/netgen.html

You can find 'The Club of Queer Trades' at
http://www.gutenberg.net/etext/1696
and more about the 'Painted Lady' at
http://www.earthsbirthday.org/butterflies/

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