1. Write a program to find the two-digit number such that when you square it, the resulting three-digit number has its rightmost two digits are the same as the original two-digit number. That is for a number in the form AB, AB \* AB = CAB for some C.
2. Write a program to convert a hexadecimal integer to decimal.

Here is the sample run:

>>>

This program converts a hexadecimal number and converts it into decimal

Enter a valid hexadecimal number: abc

abc converted to decimal is 2748

Do you want to try again? Enter Y for Yes and N for No: y

Enter a valid hexadecimal number: ABC

ABC converted to decimal is 2748

Do you want to try again? Enter Y for Yes and N for No: y

Enter a valid hexadecimal number: 1234

1234 converted to decimal is 4660

Do you want to try again? Enter Y for Yes and N for No: y

Enter a valid hexadecimal number: 16bCF

16bCF converted to decimal is 93135

Do you want to try again? Enter Y for Yes and N for No: n

Thanks for using my program. Good bye!

>>>

Hexadecimal is a base-16 number format. There are a total of 16 digits (0-15). 0-9 have the same meaning in decimal. 10 is represented in hex as A (or a); 11 is represented as B (or b); 12 is represented in hex as C (or c); 13 is represented as D (or d); 14 is represented in hex as E (or e); 15 is represented as F (or f);