import java.io.\*;

public class Checksum {

public static void main(String[] args) throws IOException

{

BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

System.out.println("Please enter the Hex Dump:");

String ip = br.readLine();

String word1 = Integer.toBinaryString(Integer.parseInt(ip.substring(0,4),16));

word1 = setLength(word1,16);

for(int i = 4; i < ip.length(); i=i+4)

{

String word2 = Integer.toBinaryString(Integer.parseInt(ip.substring(i,i+4),16));

word2 = setLength(word2,16);

word1 = add(word1,word2);

}

System.out.println("The Checksum is: " + not(word1));

}

static String add(String word1,String word2)

{

String result = "";

char carry = '0';

for(int i = (word1.length() - 1); i >= 0; i--)

{

if(word1.charAt(i) == '0' && word2.charAt(i) == '0' && carry == '0')

{

result = "0" + result;

carry = '0';

}

else if(word1.charAt(i) == '0' && word2.charAt(i) == '0' && carry == '1')

{

result = "1" + result;

carry = '0';

}

else if(word1.charAt(i) == '0' && word2.charAt(i) == '1' && carry == '0')

{

result = "1" + result;

carry = '0';

}

else if(word1.charAt(i) == '0' && word2.charAt(i) == '1' && carry == '1')

{

result = "0" + result;

carry = '1';

}

else if(word1.charAt(i) == '1' && word2.charAt(i) == '0' && carry == '0')

{

result = "1" + result;

carry = '0';

}

else if(word1.charAt(i) == '1' && word2.charAt(i) == '0' && carry == '1')

{

result = "0" + result;

carry = '1';

}

else if(word1.charAt(i) == '1' && word2.charAt(i) == '1' && carry == '0')

{

result = "0" + result;

carry = '1';

}

else if(word1.charAt(i) == '1' && word2.charAt(i) == '1' && carry == '1')

{

result = "1" + result;

carry = '1';

}

}

if(carry == '1')

{

result = add(result,setLength(String.valueOf(carry),16));

}

return result;

}

static String setLength(String word,int n)

{

while(word.length() < n)

word = "0" + word;

return word;

}

static String not(String word)

{

String result = "";

for(int i = 0; i < word.length(); i++)

{

if(word.charAt(i) == '0')

result += "1";

else

result += "0"; }

return result; }

}

Output:

