Worksheet 4

1. Write the method that is called by the following main method to convert a hexadecimal string to an integer.

```java
public static void main (String[] args){
    int decimalVal = 0; // initialize for addition
    Scanner input = new Scanner(System.in);
    System.out.print("Enter a hexadecimal string: ");
    String s = input.nextLine();

    // convert digit by digit
    for (int i=0;i<s.length();i++){
        char hex = s.charAt(i);
        int decDigit = getDec(hex);
        decimalVal += decDigit * Math.pow(16,s.length()-1-i);
    }

    System.out.println("This equals " + decimalVal);
}
```

2. Write a program that takes a large String, and calls a method called `lastPart` to see if a smaller string matches the lastPart of the original string. Test it with a main method where the large String is a URL input by the user, and the smaller string can be either ".net", "com", "edu" and "gov". Depending on the match, your program should output "This is a networking company", "This is a commercial business", "This is an educational institution", or "This is a government entity". You can also practise using `switch` statements here.