Assignment 6 - Programming Exercises

due Friday, October 31

Question 1

Write a function to find the length of the longest sequence of zero values in an array. Your function is passed an integer array and an integer (the number of values in the array) and should return an integer. For example, if the function is passed the array:

```
1 0 0 1 1 3 0 -1 0 0 0 0 6 2 0 3
```

it should return the value 4.

Declare your function as follows:

```
int runlen ( int s[], int n )
```

Question 2

(a) Write a function that is passed a character array containing optional leading space (`' '`) characters, a sequence of binary digits, optional trailing space characters and a terminating null character (value 0). The function should compute and return the value of the binary number.

(b) Write a similar function that accepts hexadecimal digits instead.

Declare your functions as follows:

```
int bin2i ( char s[] )
```

and

```
int hex2i ( char s[] )
```

Question 3

Write a `void` function, `concat()`, that takes three character array arguments: `a`, `b` and `c`. The function should concatenate (join) the second string to the end of the first string and put the result in the third array. The ends of the strings in the first two arrays are marked by zero ("null") characters. Your function should work for strings of any length. You may assume the third string is long enough to hold the result.

Question 4

Write a function `cntvalid()` that takes two character arrays arguments (`s` and `v`) followed by two integers (`ns` and `nv`, the array lengths). Your function should compute and return the number of characters in the first string that appear in the second string.

For example, `cntvalid("aabcdddef","ea")` should return 3.