Edmi (Tony) Sparks
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Data Structures Homework for Ch. 1:

5.
```
array A
array B
int x=0, y=0
while loop (x<A and y<B)
   if A[x] > B[y]
      x+1
   if B[y] > A[x]
      y+1
   else
      Print A[x] B[y]
      x+1
      y+1
```

Brute force
Max = m or n (whichever is smaller)

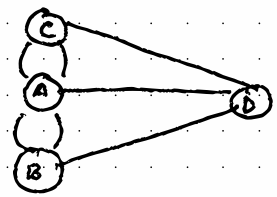
8. m=10, n=15 → m/n = 10/15 = 0 rem r.
10 % 15 = 10 : 0 rem r = 0

The algorithm will swap m and n, This can only happen once since m=15 and n=10 now, => m > n . . .

5. Binary representation Algorithm . .

english	pSeudocode
input Decimal	int Decimal
X = Decimal	int String
make a string to hold binary	while (Decimal > 0)
Set i = 0	String = N % 2
loop until x ≤ 0	Decimal = Decimal/2
Mod X by 2	print String.
Set remainder to left of String	
let x = x/2	

4. a.



b. No Solution, two node with odd degree.

$C \to D \to B \to A \not\to D$ Skip $A \to C$

$A \to C \not\to D$ Skip $A \to D$

Can't Have both.

2. a.

List as array = Binary Search

Start at middle, move left or right ignore the others

b.

We would have to go through each node to get to the next, it being sorted is not be used to an advantage

3. a.

$a \to a,b \to a \to a,c \to a,c,d \to a,c$

b.

$a \to a,b \to b \to b,c \to b,c,d \to c,d$

4. a.

entry to graph = 1 , Diagonal = 0

b.

Graph has a loop if (1,1) = 1

c.

The entire column of that node = 0

a.

The graph is complete if for each node, list $\to$ other nodes

b.

No loop exist with linked list

c.

No linked list in any node, has a node with value of given node is isolated

10. Anagram Checking:

```
X1 = Word1 length
X2 = Word2 length
// length of ...
   if (x1 length ≠ x2 length)
      → false
String1 = Sort (word1)
String2 = Sort (word2)

if ( String1 = String2)
   → True
else
   → false
```