# Second assignment

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### Algorithm

method BinarySearch( A : array of integer, key : integer ) : integer

begin

var x, l, r : integer;

l=1; r = A.length();

repeat

x = (l+r) div 2;

if key < A[x] then r=x-1 else l=x+1

until ( key==A[x]) or (l>r)

if key==A[x] then return x else return -1

end

# Question 1

**Condensation graph**

# Question 2

### 2.1 Sorting - Pre and Post conditions

/\*@ requires !Empty();

@ ensures

@ element[i] <= element [i+1]

\*/

### 2.2 Searching - Pre and Post conditions

/\*@ requires !Empty();

@ also

@ requires arraySorted() == true;

@ ensures

@ ???

\*/

if element is member of the array, then it finds it

### 2.3 Membership - Pre and Post conditions

???

### 2.4 Binary Search - Pre and Post conditions

???

# Question 3

### 3.1 Do you have a test case that represents a valid scalene triangle?