DIT635 - Structural Testing Activity

Draw a control-flow graph for the following method:
 (A is an array, what is the element you are searching for)

```
public int search(String[] A, String what){
      int index = 0;
      if ((A.length == 1) && (A[0] == what)){
            return 0;
      } else if (A.length == 0){
            return -1;
      } else if (A.length > 1){
            while(index < A.length){</pre>
                  if (A[index] == what){
                        return index;
                  } else
                        index++;
                  }
            }
      return -1;
}
```

2.	Write	e tests	that	provid	le sta	teme	nt, bra	anch,	and	basic	cond	lition	covei	age	over t	he c	ode.

DIT635 - Loop Testing Activity

1. Draw the control-flow graph for the following code:

```
1. public boolean binary_search (Object key, Object[] T){
2.
      int mid;
3.
      int bott = 0;
4.
      int top = T.length - 1;
      Boolean found = false;
5.
6.
7.
      if(T[0] == key){
8.
            found = true;
9.
      }else{
10.
            found = false;
11.
      }
12.
13.
      while (bott <=top && !found){</pre>
14.
            mid = round((top + bott) / 2);
15.
            if(T[mid] == key){
16.
                   found = true;
            } else{
17.
18.
                   if (T [mid] < key ){</pre>
19.
                         bott = mid + 1;
                   }else{
20.
21.
                         top = mid-1;
22.
                   }
23.
            }
24.
      }
25.
        return found;
26.}
```

- 2. Write a test suite that achieves loop boundary coverage (That exercises the loops:
 - Zero times
 - One time
 - Two or more times)