1. A1:(a),(c),(d),(g)

   A2:(a),(b),(c),(d),(f),(g),(h)

   A3:(b),(f),(h)

   A4:(b),(e),(f),(h)

   A5:(c),(g)

2.(a),(f)are true.

3.

	1second	1minute	1hour	1day	1month	1year	1century
lgn	2^{10^6}	$2^{60\times10^6}$	$2^{3600\times10^6}$	$2^{86400\times10^6}$	$2^{2678400\times10^6}$	$2^{32140800\times10^6}$	$2^{3214080000\times10^6}$
$\sqrt{n}$	10^{12}	$60^2\times10^{12}$	$3600^2\times10^{12}$	$86400^2\times10^{12}$	$2678400^2\times10^{12}$	$32140800^2\times10^{12}$	$3214080000^2\times10^{12}$
n	10^6	60×10^6	3600×10^6	86400×10^6	2678400×10^6	32140800×10^6	3214080000×10^6
n^2	10^6	$\sqrt{60}\times10^3$	60×10^3	$\sqrt{86400}\times10^3$	$\sqrt{2678400}\times10^3$	$\sqrt{32140800}\times10^3$	$\sqrt{3214080000}\times10^3$
n^3	10^2	$\sqrt[3]{60}\times10^2$	$\sqrt[3]{3600}\times10^2$	$\sqrt[3]{86400}\times10^2$	$\sqrt[3]{2678400}\times10^2$	$\sqrt[3]{32140800}\times10^2$	$\sqrt[3]{3214080000}\times10^2$
2^n	$lg10^6$	lg (60 $\times10^6$)	lg (3600 $\times10^6$)	lg (86400 $\times10^6$)	lg (2678400 $\times10^6$)	lg (32140800 $\times10^6$)	lg (3214080000 $\times10^6$)

4.It is wrong. For example, if an array A=[1,2,3,4,5] which does not have duplicates, but this algorithm would print all of its items.

When i=1, then we go into the inner loop, j=i then j=1,do the check A[i]=A[j] which is obvious. And every time we go into the inner loop for the first time, it will print out A[i]. So the algorithm is wrong.

5.It is wrong. For example , pow(2,3), the algorithm will not terminate.

6.(a) O(n^2),o($n^2 log$n),Θ(n^2),Ω(n^2)

(b)O(n),o(nlogn),$\Theta(n)$,$\Omega(n)$

7.Yes, because A[1..j-1] is sorted so we can use binary search and binary search's run time is O(log n) which is definitely less than O(n), so it will be faster.

8.The sequence of printing contents is (0,1),(1,2),(3,4),(2,4).

9.FindDuplicates(A)

```
  for i=1 to A.length
      for j=i+1 to A.length
          if A[i]==A[j]
              delete A[j]
return A.length
```

A is an array which includes all of the names he has received. The algorithm is O(n^2), $\Theta(n^2)$,$\Omega(n^2)$.