AP CS: Array Team Warm-Up

Group Number: _____
Team Members:

_____ _____

_____ _____

1) Method priceIsRight…

A) Write a method priceIsRight that accepts an array of integers *bids* and an integer *price* as parameters. The method returns the element in the *bids* array that is closest in value to *price* without being larger than *price*. For example, if *bids* stores the elements {200, 300, 250, 999, 40}, then priceIsRight(bids, 280) should return 250, since 250 is the bid closest to 280 without going over 280. If all bids are larger than *price*, then your method should return -1.

The following table shows some calls to your method and their expected results:

Arrays	**Returned Value**
`int[] a1 = {900, 885, 989, 1};`	`priceIsRight(a1, 800) returns 1`
`int[] a2 = {200};`	`priceIsRight(a2, 120) returns -1`
`int[] a3 = {500, 300, 241, 99, 501};`	`priceIsRight(a3, 50) returns -1`

B) Describe why arrays are appropriate for modeling the situation above:

2) Flight Modeling Software

Consider the following code modeling passengers' flight destinations and times

```
String[] people = {"Jane", "Eric", "Alyssa", "Virginia"};
String[] destination = {"SEA", "YUL", "SEA", "PHX"};
int[] departures = {790, 840, 790, 800}; // minutes since noon
int currTime = 770;

boolean[] rush = departingSoon(departures, currTime);
System.out.println(Arrays.toString(rush)); // [true, false, true, true]
```

A) What can be used to create connections between the three arrays representing different types of information? (In other words, to connect Eric to his destination of YUL and departure time of 840)

B) Why is time represented as minutes since noon? What would other possible representations be? What advantages and disadvantages might they present?

C) Write the departingSoon method called above which returns an array of booleans representing whether each flight is within 30 minutes of departure.

D) Describe how you could get a list of passengers in a hurry (don't write the code, just describe it).

E) Do you think this is actually how airlines model their passenger and flight information? What might be some disadvantages of this model? How do you imagine the information might be represented?