Intro
Background
Solution NAME: Wang,Qiman CS370 QUIZ#1

1)Consider an online auction system that you would like to implement. Write a one page Executive Summary for proposing such a system *on this side only*. (20 points)

Intro – I love clothing! Almost all millinecials love clothing and ways to be fashionable thanks to social media and online shopping. My closet is filled with clothing and I want to get rid of some clothing and make some money.

Background – A problem I have and many have is too much clothing. My closet is full, my bosenef have alot of my old cloth. I don't wat to wear it because I don't like it anymore. But I don't wont to throw it away.

Solution – we can create a online auction system for clothing. People can post their old clothing and others might really like something that I don't like anymore. It's a win win situation. The auction system will allow users to post their clothing picture, our algorithm will automatically determine your recommend buyers and recommend it. Also price at a reasonable price.

Cost – the site is easy to create. we need about 5 Software engineers and takes about 6 months to deploy on app store. So the cost is rent (24,000) + (salary)(5×60,000) +equipment(20,000). We are looking at about $350,000.

Conclusion – If this works out well. we can create a auction platform for other things too like video games, Books etc. If it doesn't work well, we can create a generic auction site like ebay. But make it better. Somehow.

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2)Choose five principles of ethics in software engineering and *on this side only* give a situation (not in story form) where the given ethic is challenged. What should be done to act ethically? A given situation can only be used for one ethical principle. (20=5*(1+2+1)=5*4 points)

Name of Ethic1 Collegue

Situation Challenging Ethic1 Your collegue needs help, but you don't want to help because you don't like him.

What should be done in this situation in order to act ethically You should be professional and help him. Don't bring personal feelings into work.

Name of Ethic2 Public

Situation Challenging Ethic2 You added a feature that you like, But is not beneficial nor good for the Public

What should be done in this situation in order to act ethically You don't add the feature as it can be bad instead of good.

Name of Ethic3 Self

Situation Challenging Ethic3 You think you know everything and stops learning new technology nor practices (new)

What should be done in this situation in order to act ethically keep learning as technology is chaging so fast in today's world.

Name of Ethic4 product

Situation Challenging Ethic4 You know you can make the code and feature better, But you choose not to, because your boss under pays you.

What should be done in this situation in order to act ethically You should do the best you can, everytime you work on a product. Chighst quality!

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3)Give two advantages and two disadvantages for developing a system in JAVA in the form below. The same example cannot be used for both an advantage and a disadvantage. (10 points)

Advantage1 write once, run anywhere thanks to .class files.

Advantage2 has Exceptions, to catch errors at all stages of a code.

Disadvantage1 no pointer, so it's limited in some coding manipulations.

Disadvantage2 requires JVM, the system has to have JVM installed, and the code has to be compiled. Not an interpreted language like Python that runs on runtime.

4)Why does Java provide "buffers" for its readers and input streams? (10 points)

because reading byte by byte is too inefficient. So Java provide Stream to allow constant reading of data while buffer reading in a lunch of data at one in memory. Buffer is built on top of Stream.

5)Why is a "USER-AGENT" sometimes necessary when accessing a URL in Java? (10 points)

Because a user agent kind of represents your browser and lets you know if you have the right requirment to run a site. also to prevent people from web scraping, So people connect to a site with no user agent gets rejected.

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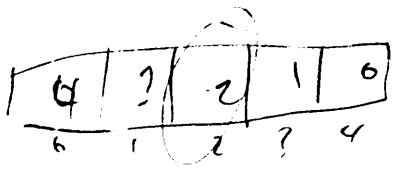
6) Rewrite the entire piece of code below according to proper documentation principles and answer the short questions below. (30 points = 5 + 5 + 20)

---------- Original Code ----------

```
public static int whatDoesThisDo(int[] e, int b) {
   int c = 0;
   int d = e.length - 1;
   while (c <= d) {
      int f = c + (d - c) / 2;
      if (b < e[f]) d = f - 1;
      else if (b > e[f]) c = f + 1;
      else return f;
   }
   return -1;
}
```



---------- **Your Answer** ----------

a) What does this code do? binary Search. return array Index if found return -1 if not found.

b) If e = {4, 3, 2, 1, 0} and b = 1, what does whatDoesThisDo(e, b) return? -1

c) *RECOMMEND DO FIRST*. Rewrite the above code according to proper documentation principles:

```
//binary Search, takes in an sorted arry in non decreasing order, and a Target value
Dublic Static int binarySearchTree(int[] arr, int targetValue){
   int leftIndex = 0;   //left most index
   int rightIndex = arr.length -1;   //right most index
   While(leftIndex <= rightIndex){
      int idxDifference = rightIndex - leftIndex;
      int midIndex = leftIndex + (idx difference / 2);
      if (targetValue < arr[midIndex]){
         rightIndex = midIndex - 1; //eleminate midIndex element and all element to right
      }                             //of midIndex
      else if (targetValue > arr[midIndex]){
         leftIndex = midIndex +1; // eleminate all element to the left
      }                           //of midIndex and midIndex.element
      else return midIndex; //found the index of element in arrray.
   }//while loop keep running as long as leftIndex not overlap rightIndex.
   return -1; // if not found element in arrray
}//binary.Search tree method
```