1.

a)
```
String input = in.nextLine();
String uppers = "";
for(int i = 0; i < input.length(); i ++) {
        char currentChar = input.charAt(i);
        if(currentChar.isUpperCase()) {
                uppers += currentChar;
        }
}
out.println(uppers);
```

b)
```
String input = in.nextLine();
String secondLetters = "";
for(int i = 1; i < input.length(); i = i+2) {
        if(i ⬇ input.length) {
                char currentChar = input.charAt(i);
                if(currentChar.isUpperCase()) {
                        secondLetters += currentChar;
                }
        }
}
out.println(secondLetters);
```
c)
```
String input = in.nextLine();
String consonants = "";
for(int i = 0; i < input.length(); i ++) {
        char currentChar = input.charAt(i);
        if(currentChar.isVowel()) {
                uppers += "_";
        }
        else {
        consonants += currentChar;
        }
}
out.println(consonants);
```
d)
```
String input = in.nextLine();
int count = 0;
for(int i = 0; i < input.length(); i ++) {
        if(input.charAt(i).isVowel()) {
                count++;
        }
```

```
}
out.println(count);
     e)
String input = in.nextLine();
for(int i = 0; i < input.length(); i ++) {
        if(input.charAt(i).isVowel()) {
                out.print(i + " ");
        }
}
```

2.
a) {1,1,2,3,4,5,4,3,2,1}
b) {1,1,2,3,4,5,4,3,2,1}
c) {2,3,4,5,4,3,2,1,0,0}
d) {2,3,4,5,4,3,2,1,0,0}
e) {1,3,6,10,15,19,22,24,25,25}
f) {1,0,3,0,5,0,3,0,1,0}
g) {1,2,3,4,5,1,2,3,4,5}
h) {1,1,2,2,3,3,4,4,5,5}

3.
```
int min = a[0];
int max = a[0];
for(int i = 1; i < a.length; i++) {
        if(min < a[i]) {
                min = a[i];
        }
        if(max > a[i]) {
                max = a[i];
        }
}
```
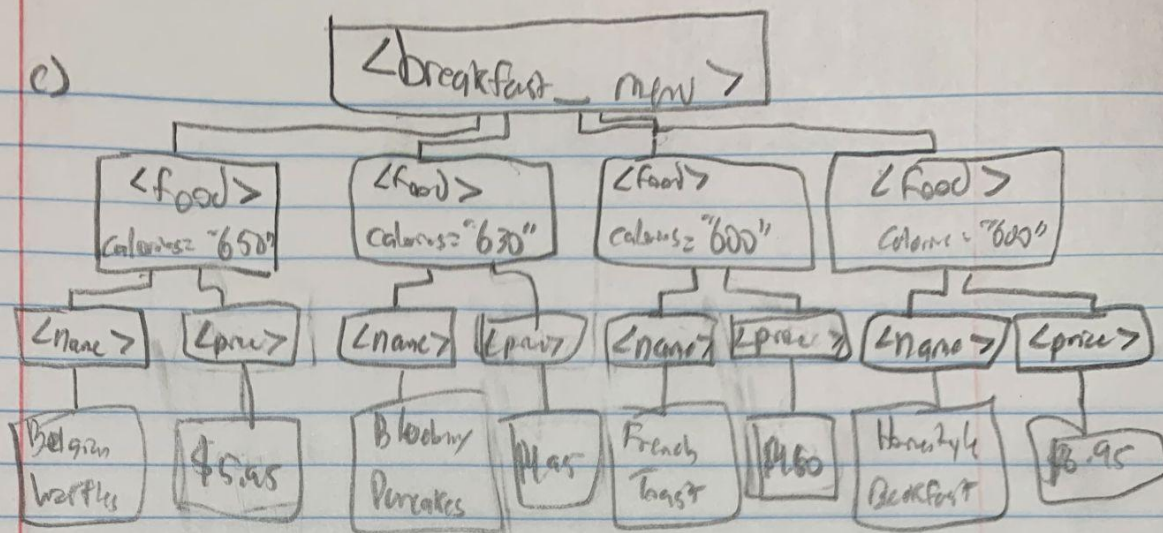
4.
```
boolean isOrdered = true;
for(int i = 0; i < a.length; i++) {
        isOrdered = a[i] <= a[i+1];
        if(! isOrdered) {
                i = a.length;
        }
}
```

5.

c)

```
                    ┌──────────────────────────────┐
                    │    <breakfast_menu>          │
                    └──────────────────────────────┘
         ┌──────────────┬──────────────┬──────────────┐
   ┌──────────┐   ┌──────────┐   ┌──────────┐   ┌──────────┐
   │ <food>   │   │ <food>   │   │ <food>   │   │ <food>   │
   │Calories= │   │Calories= │   │Calories= │   │Calorie=  │
   │ "650"    │   │ "630"    │   │ "600"    │   │ "600"    │
   └──────────┘   └──────────┘   └──────────┘   └──────────┘
    ┌────┬────┐   ┌────┬────┐   ┌────┬────┐   ┌────┬────┐
 <name> <price> <name> <price> <name> <price> <name> <price>

 Belgian  $5.95  Blueberry  $4.95  French  $4.60  Homestyle  $6.95
 Waffles         Pancakes          Toast           Breakfast
```

b) true

breakfast_menu

4

false

<food Calories= "630" > <name> Blueberry Pancakes </name> <price>4.95 </price> </food>

true

food   Pancakes

2

true

"630"

true

false

Blueberry Pancakes

d)

<breakfast_menu>

<food>
Calories= "650"

<food>
Calories= "630"

<food>
Calories= "600"

<food>
Calories= "600"

<name>
price= 5.95

<name>
price= "4.95"

<name>
price= "4.50"

<name>
price= "6.95"

Belgian waffles

Blueberry Pancakes

French Toast

Homestyle Breakfast