AP JAVA
Recursion Worksheet #1

1. For the following method, what would be displayed by the call `mystery1(5)`?
```java
public void mystery1(int nNum){
      if(nNum <= 0)
         return;
      else
      {
         System.out.println(nNum);
         mystery1(nNum - 1);
      }
}
```

2. For the following method, what would be displayed by the call `mystery2(5)`?
```java
public void mystery2(int nNum){
     if(nNum <= 0)
          return;
     System.out.println(nNum);
     mystery2(nNum - 1);
}
```

3. For the following method, what would be displayed by the call: `mystery3(4)`?
```java
public void mystery3(int nNum){
      if(nNum <= 0)
         return;
      for(int nI = 0; nI < nNum; nI++)
         System.out.print("-");
      for(int nI = 0; nI < nNum; nI++)
          System.out.print("+");
      System.out.println();//ends the line
      mystery3(nNum - 1);
}
```

4. For the following method, what value would be returned by the call: ans =`mystery4(4)`?
```java
public int mystery4(int nNum){

if (nNum>1)
      return nNum*mystery4(nNum-2);
else
      return 2;
}
```

5. For the following method, what value would be returned by the call ans=mystery5(6,8)?
```
    public int mystery5(int k, int n)
    {  if (n==k)
            return k;
      else
            if (n>k)
              return mystery5(k, n-k);
            else
               return mystery5(k-n,n);
    }
```

6. For the following method, what would be displayed by the call: `mystery6("abcdefgh")?`
```
    public void mystery6(String sWord){
            int nL = sWord.length();
            if(nL > 1)
            {
                    String sTemp = sWord.substring(nL/2,nL);
                    mystery6(sTemp);
                    System.out.println(sTemp);
            }
    }
```

7. For the following method, what would be displayed by the call: `mystery7("abcdefghijkl")?`
```
    public void mystery7(String sWord){
            int nL = sWord.length();
            if(nL >= 3)
            {
                    mystery7(sWord.substring(0,nL/3));
                    System.out.println(sWord.substring(0, nL/3));
                    mystery7(sWord.substring(0,nL/3));
                    //substring(x) same as substring(x,length())
            }
    }
```

8. For the following method, what would be displayed by the call: `mystery8("la-la-la")?`
```
    public void mystery8(String sWord){
            int nL = sWord.length();
            if(nL >= 3)
            {
                    mystery8(sWord.substring(0,nL/3));
                    System.out.println(sWord.substring(nL/3,2*nL/3));
                    mystery8(sWord.substring(2*nL/3));
                    //substring(x) same as substring(x,length())
            }
    }
```