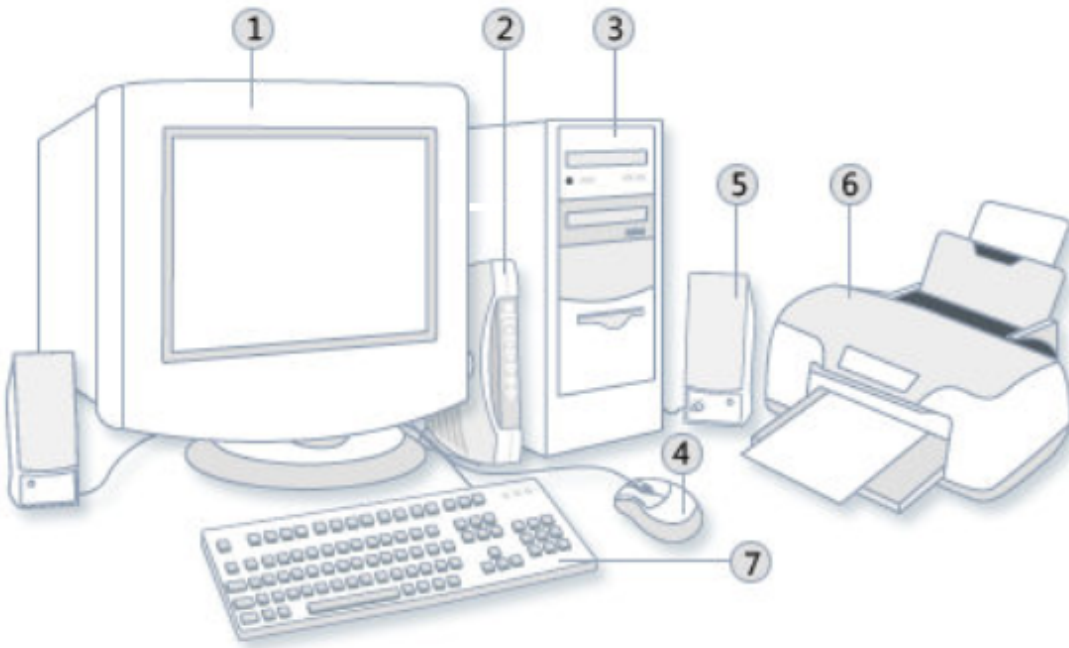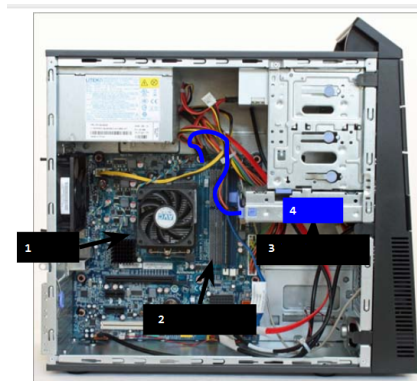## Computer Components: an Overview

Identify which of the main components of a computer are responsible for input and output to running computer programs.

1. Monitor: input | output | both

2. Modem: input | output | both

3. Box: CPU? Motherboard? Device Cards? Hard Disk Drives? Floppy Disk Drives? USP Ports?

4. Mouse: input | output | both

5. Speaker: input | output | both

6. Printer: input | output | both

7. Keyboard: input | output | both

8. What's inside the Computer?

   (1) _____

   (2) _____

   (3) _____

   (4) _____

   What other parts can you recognize?

Files

Files are pages of data stored on (written to) "external" devices: floppy drive, hard drive, network filespace, USB drive, cloud server filespace, etc.

Use delimiter characters (/) to indicate directories along the path to the file.

1. Why is data stored in a file?

2. How do we get information into a file?

3. How do we get information out of a file?

4. Where are files located?

5. What is a relative path?

6. What is an absolute path?

File Output and File Input (throws FileNotFoundException)

1. How do you write data from a Java program into a file on the hard drive?

```java
import java.io.*;
public class WriteToFile
{
   public static void main(String[] args) throws FileNotFoundException
   {
      String filename = "answers.txt";
      PrintWriter pw = new PrintWriter(filename);
      for ( int i=0; i < 100 ; i++ )
      {
         pw.print((i+1)+". ");
         int k = (int)(Math.random()*5);
         pw.println( (char)('A' + k) );
      }
      pw.close();
   }
}
```

2. How do you read data from a file into a Java program?

```java
import java.io.*;
public class ReadFile
{
   public static void main(String [] args) throws FileNotFoundException
   {
      String fn = "output.txt";
      File infile = new File(fn);
      Scanner in = new Scanner(infile);
      int i = 0;
      while ( in.hasNextLine() )
      {
         String line = in.nextLine();
         System.out.println( i + ". " + line );
         i++;
      }
      in.close();
      System.out.print( "Read "+ i + " lines from file " + fn );
      ...
}
```