Answers for 1.3P How Many Objects?

Student Name:
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Question 1: How many **variables** are there of each type?

Class	Number of Variables	Variable names
Window	3	helloWindow, anotherWindow, yetAnotherWindow
Bitmap	1	pegasi
Sound Effect	1	knock
Font	0	

Question 2: How many **objects** of each class are **created** in this code?

Class	Number of Objects
Window	2
Bitmap	1
Sound Effect	1
Font	0

Question 3: What are the details of the different window objects created by this code? Complete the following table. Indicate the color that the window was cleared to (use Grey if not cleared).

Window Title	Width	Height	Color Shown
"Hello World"	800	600	Blue
"Another Window"	300	300	Green

Question 4: Which variables **refer** to which objects? Use the Window Title to indicate the object, and the variable name (or names) to indicate the variables that refer to this object.

Window Title	Number of Variables that Refer to this Object?	Variable Names (comma separate if multiple)
"Hello World"	2	yetAnotherWindow, helloWindow
"Another Window"	1	anotherWindow

Question 5: How many times is the Window object with the title "Hello World" told to do something? Copy in the lines of code that get this Window object to do something.

It was used five times.

```
helloWindow.MoveTo(0,0);
yetAnotherWindow.Clear(Color.Blue);
yetAnotherWindow.Refresh(60);
helloWindow.DrawBitmap(pegasi, 10,50);
helloWindow.Refresh(60);
```

Question 6: How could you **create** another Bitmap object for a "Hello.png" file? Write the code below.

```
Bitmap hello = new Bitmap ("Hello", "Hello.png");
```

Question 7: How can you use the object you created in Question 6 to draw the bitmap to the screen 3 times? Write the code below.

```
helloWindow.DrawBitmap(hello, 10,50);
anotherWindow.DrawBitmap(hello, 10,50);
anotherWindow.DrawBitmap(hello, 10,50);
```

Question 8: Demonstrate how you can create **another variable** to refer to the "Hello.png" image you loaded in Question 6.

```
Bitmap God;
```

```
God = hello;
```