Tutorial 3: Input and output

This tutorial will provide practice at inputting and outputting data in Java programs.

Task 1: Cuboid 

Write a program to calculate and output the surface area and volume of a cuboid. The program should prompt the user for positive integers representing the width, length and height of the cuboid.

Assume that all data entered is valid.

Step 1: Create a NetBeans project

- create a new folder called `T3` within your `DSSD` folder on the H drive
- using NetBeans create a new project called `CuboidProj` in your `T3` folder

Step 2: Write source code

- add a new file called `Cuboid` to the `CuboidProj` project
- write the `Cuboid` code, to calculate and output the surface area and volume of a cuboid

Step 3: Run and test your application

- run the program several times with different sets of data and ensure that the output is as expected

Step 4: Take a screen shot of the output

- ensure that the NetBeans screen is the active one by clicking on it
- press [ALT + Print Scrn] to take a screenshot of the output when 3, 4, 5 is input
- open Paint (Start | Programs | Accessories | Paint)
- paste the screenshot using [CTRL + V]
- save the screenshot in your project folder as `Cuboid.jpg`

Portfolio requirements

- The NetBeans project for this completed task
- The image file, `Cuboid.jpg`, from step 4, showing output from `Cuboid.java` using 3, 4, 5 as input

Task 2: Address format 

Write a program to prompt the user to input a surname, an integer house number, a road name and a town on separate lines and output it formatted as an address as follows:

Mr and Mrs <surname>,
<house number>, <road name>
<town>

where the actual data replaces the words inside the angle brackets.

Step 1: Create a NetBeans project

- using NetBeans create a new project called `AddressProj` in your `T3` folder

Step 2: Write source code

- add a new file called `Address` to the `AddressProj` project
- write the `Address` code, to output the formatted input using a **single** `printf` statement

Step 3: Run and test your application

- run the program several times with different sets of data and ensure that the output is as expected

Step 4: Take a screen shot of the output

- take a screenshot of the formatted output
- save the screenshot in your project folder as `Address.jpg`

Portfolio requirements

- The NetBeans project for this completed task
- `Address.jpg` from step 4, showing output from `Address.java`

Task 3: Seconds 

Write a program to prompt the user for a positive integer number of seconds and output the number of hours, minutes and seconds that it represents.

For example, if the number of seconds input is 3793, the data should be formatted as follows:

```
Input      Hours      Minutes    Seconds
3793           1            3          13
```

Step 1: Create a NetBeans project

- create a new project called `SecondsProj` in your `T3` folder

Step 2: Write source code

- write the `Seconds` code, to convert the number of seconds entered into hours, minutes and seconds and format the output

Step 3: Run and test your application

- run the program several times with different sets of data and ensure that the output is as expected

Step 4: Take a screen shot of the output

- take a screenshot of the formatted output using 3793 as input
- save the screenshot in your project folder as `Seconds.jpg`

Portfolio requirements

- The NetBeans project for this completed task
- `Seconds.jpg` from step 4, showing yor application's output when 3793 is input