

<b>Course Number</b>	CSci 120
<b>Descriptive Title</b>	Object-oriented Programming
<b>Programming Language</b>	Java

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<b>Problem Number</b>	8
<b>Activity Title</b>	Time Conversion

### Procedure Proper:

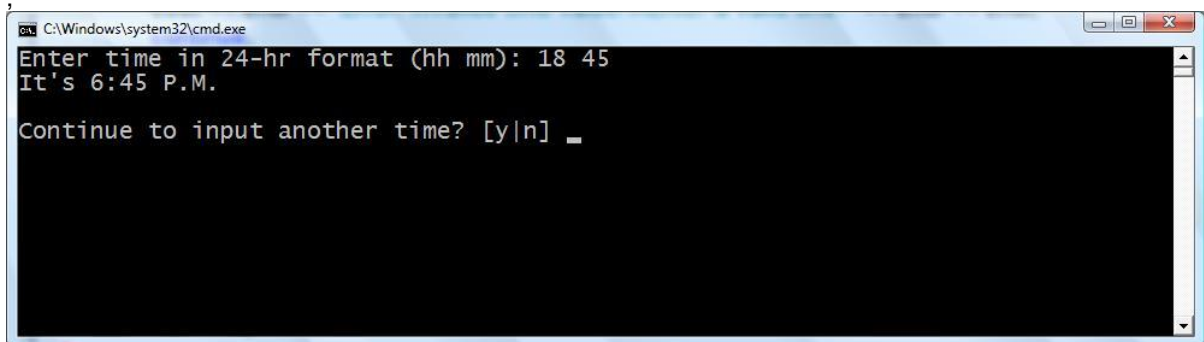
1. Write a program that converts from 24-hour notation to 12-hour notation. For example, it should convert 14:25 to 2:25 P.M. The input is given as string of 2 numbers separated by spaces. There should be at least three functions: one for input and its validation, one to do the conversion, and one for output. Include a loop that lets the user repeat this computation for new input values again and again until the user wants to end the program.

#### Note:

- ✓ You have to pad a zero (0) before the minute value of the time if minute value is less than 10.
- ✓ You might need to create some helper functions (like the values validator) to at least easily solve the problem.
- ✓ The time value 12:00 is 12 P.M. and 24:00 is 12 A.M. (a second away from the next day).
- ✓ The time value 00:00 is 12 A.M., consequently, 00:32 is 12:32 A.M.

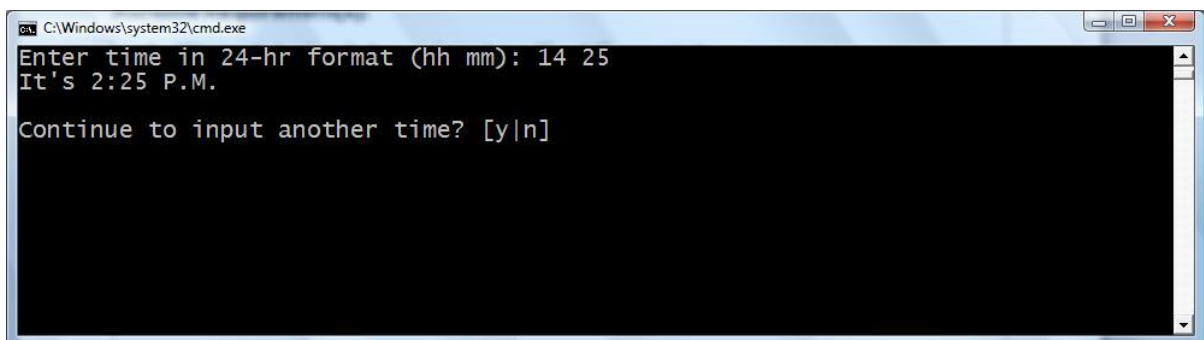
### Runtime Requirement(s):

1. If the inputted values for hour and minute are 18 and 45 respectively;



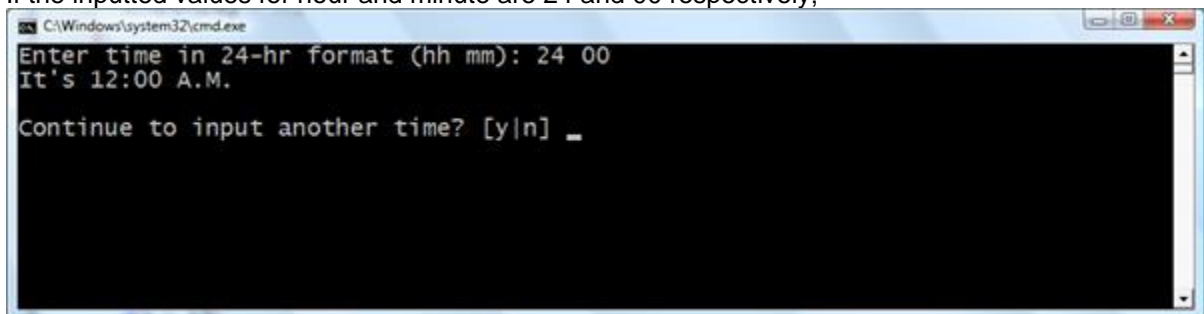
```
C:\Windows\system32\cmd.exe
Enter time in 24-hr format (hh mm): 18 45
It's 6:45 P.M.
Continue to input another time? [y|n] _
```

2. If the inputted values for hour and minute are 14 and 25 respectively;



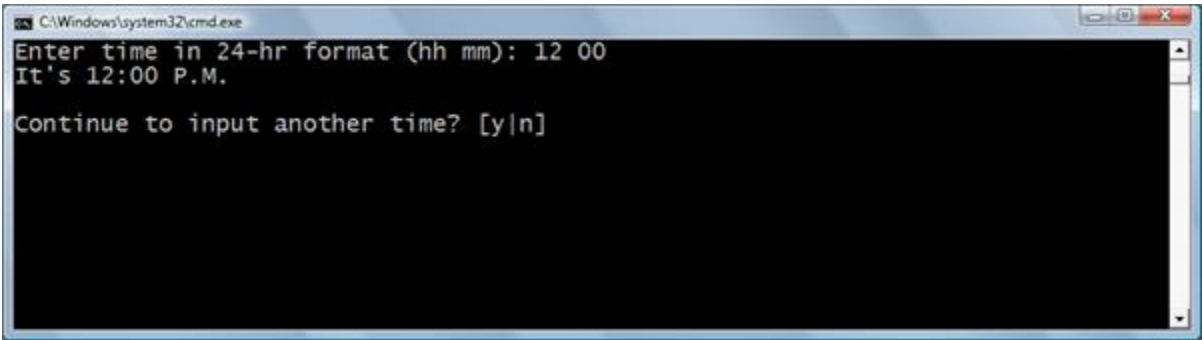
```
C:\Windows\system32\cmd.exe
Enter time in 24-hr format (hh mm): 14 25
It's 2:25 P.M.
Continue to input another time? [y|n]
```

3. If the inputted values for hour and minute are 24 and 00 respectively;



```
C:\Windows\system32\cmd.exe
Enter time in 24-hr format (hh mm): 24 00
It's 12:00 A.M.
Continue to input another time? [y|n] _
```

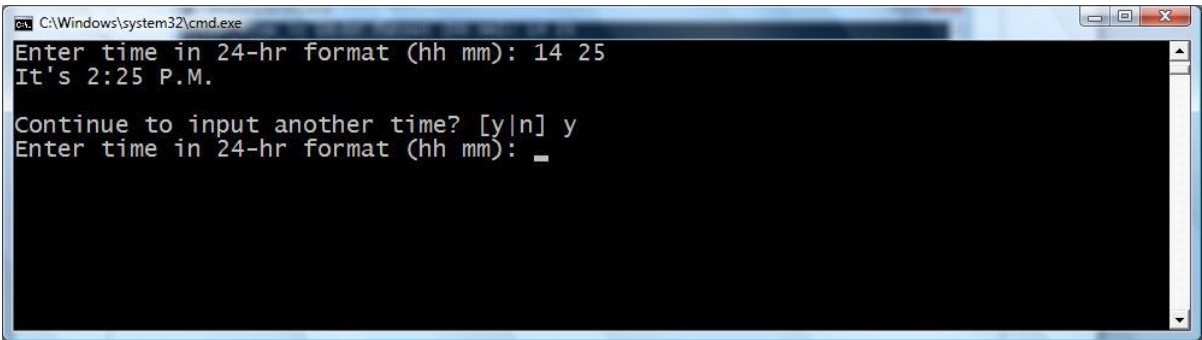
4. If the inputted values for hour and minute are 12 and 00 respectively;



```
C:\Windows\system32\cmd.exe
Enter time in 24-hr format (hh mm): 12 00
It's 12:00 P.M.

Continue to input another time? [y|n]
```

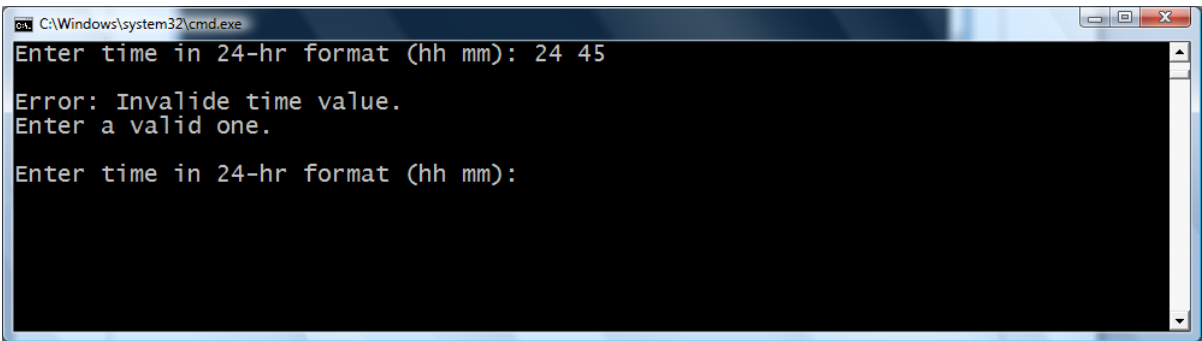
5. If the user decides to continue inputting another set of values (by pressing y or Y);



```
C:\Windows\system32\cmd.exe
Enter time in 24-hr format (hh mm): 14 25
It's 2:25 P.M.

Continue to input another time? [y|n] y
Enter time in 24-hr format (hh mm): _
```

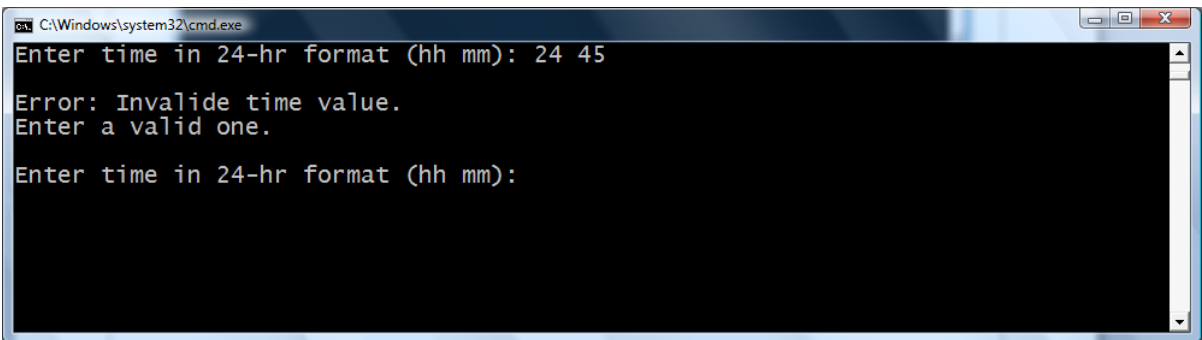
6. If an invalid value for hour is inputted;



```
C:\Windows\system32\cmd.exe
Enter time in 24-hr format (hh mm): 24 45
Error: Invalide time value.
Enter a valid one.

Enter time in 24-hr format (hh mm):
```

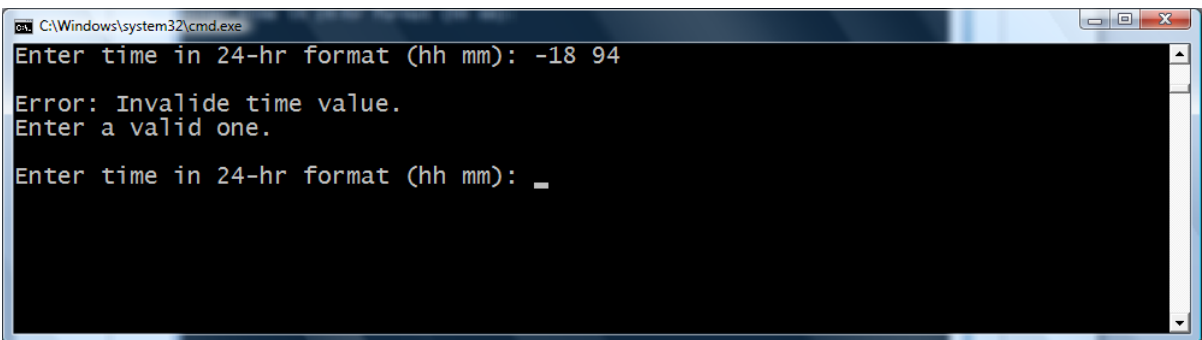
7. If an invalid value for minute is inputted;



```
C:\Windows\system32\cmd.exe
Enter time in 24-hr format (hh mm): 24 45
Error: Invalide time value.
Enter a valid one.

Enter time in 24-hr format (hh mm):
```

8. If invalid values for hour and minute are inputted;



```
C:\Windows\system32\cmd.exe
Enter time in 24-hr format (hh mm): -18 94
Error: Invalide time value.
Enter a valid one.

Enter time in 24-hr format (hh mm): _
```