Deborah Barndt

ITMD 513 Open Source Programming

Professor Dr. Sam

Hw10

4-8-19

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'''
Deborah Barndt
4-8-19
Employee.py
hw10: Inheritance

This program will contain two classes: Employee and ProductionWorker. The Employee class
will keep data attributes for the following pieces of information: Employee name and
Employee number. The ProductionWorker will be a subclass of the Employee class. The
ProductionWorker class will keep data attributes for the following information: Shift
number (an integer, such as 1, 2, or 3) and Hourly pay rate.

The workday is divided into two shifts: day and night. The shift attribute will hold an
integer value representing the shift that the employee works. The day shift is shift 1 and
the night shift is shift 2. Write the appropriate accessor and mutator methods for each
class. Once you have written the classes, write a program that creates an object of the
ProductionWorker class and prompts the user to enter data for each of the object's data
attributes. Store the data in the object, then use the object's accessor methods to
retrieve it and display it on the screen.

Written by Deborah Barndt.
'''

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```
24  # Class Employee that contains data attributes for Employee name and Employee number.
25  class Employee():
26      # Function to create a constructor of class Employee.
27      def __init__(self, employee_name, employee_num):
28          self.employee_name = employee_name
29          self.employee_num = employee_num
30
31      # Getter function to get employee name.
32      def getEmployeeName(self):
33          return self.employee_name
34
35      # Setter function to set the employee name.
36      def setEmployeeName(self, employee_name):
37          self.employee_name = employee_name
38
39      # Getter function to get employee number.
40      def getEmployeeNum(self):
41          return self.employee_num
42
43      # Setter function to set the employee number.
44      def setEmployeeNum(self, employee_num):
45          self.employee_num = employee_num
46
47
48  # Class ProductionWorker that contains the data attributes for Shift number and Hourly pay rate.
49  class ProductionWorker(Employee):
50      # Function to create a constructor of the class ProductionWorker.
51      def __init__(self, employee_name, employee_num, shift_num, hourly_rate):
52          # Invoke the constructor of Employee class.
```

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53          Employee.__init__(self, employee_name, employee_num)
54
55          self.shift_num = shift_num
56          self.hourly_rate = hourly_rate
57
58      # Getter function to get shift number.
59      def getShiftNum(self):
60          return self.shift_num
61
62      # Setter function to set the shift number.
63      def setShiftNum(self, shift_num):
64          self.shift_num = shift_num
65
66      # Getter function to get the hourly pay rate.
67      def getHourlyRate(self):
68          return self.hourly_rate
69
70      # Setter function to set the hourly pay rate.
71      def setHourlyRate(self, hourly_rate):
72          self.hourly_rate = hourly_rate
73
74  '''
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77  EmployeeTest.py
78  hw10: Inheritance
79
80  This program will contain two classes: Employee and ProductionWorker. The Employee class
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ProductionWorker class and prompts the user to enter data for each of the object's data
attributes. Store the data in the object, then use the object's accessor methods to
retrieve it and display it on the screen.

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'''
from Employee import ProductionWorker

# Function to display the values of the data attributes.
def main():
    while True:
        print('Please enter the details of the employee.\n')

        while True:
            name = input('Enter employee name: ')

            if not name:
                print('\nInvalid input: Employee name cannot be empty.')
                continue

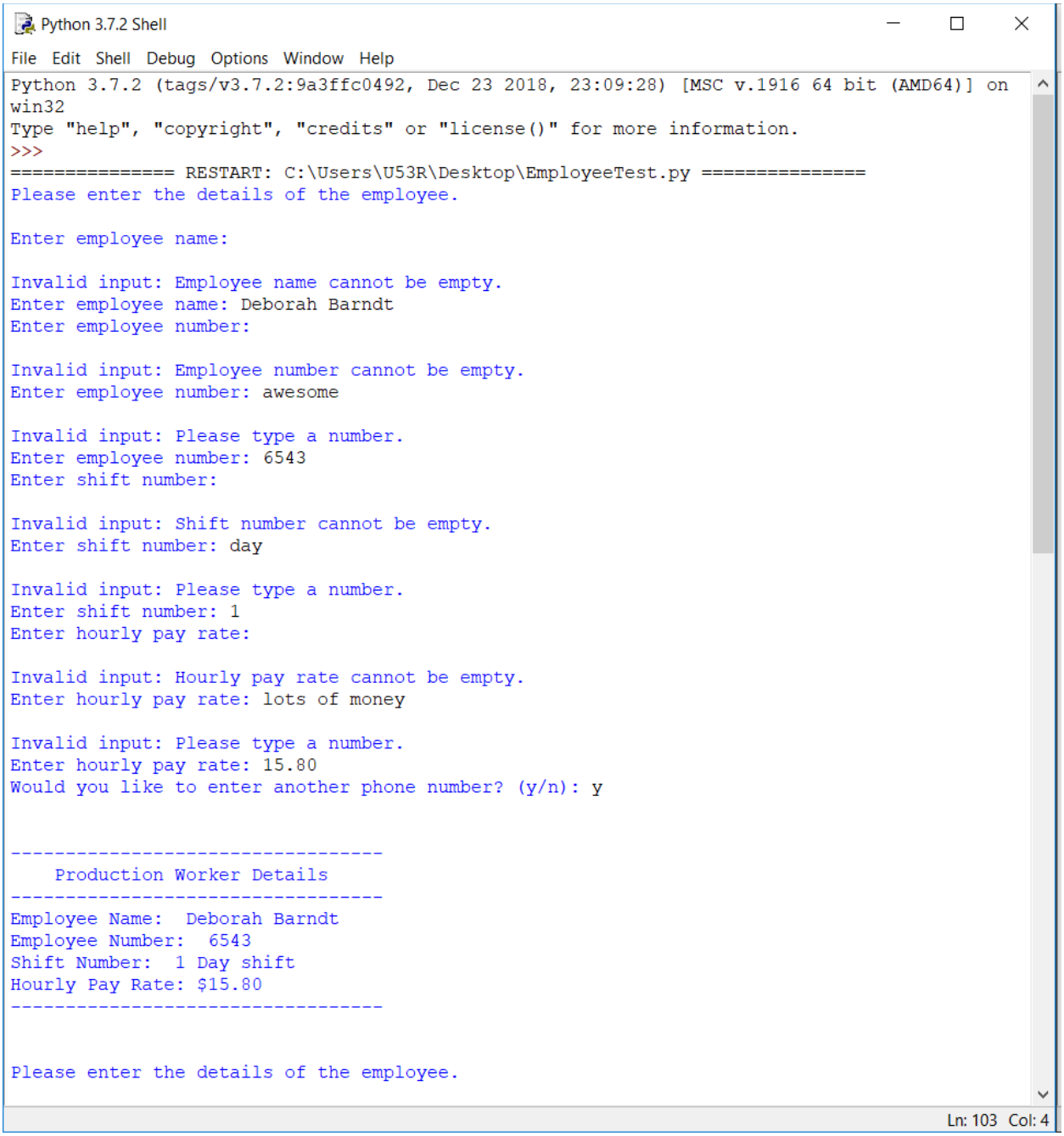
            else:
```

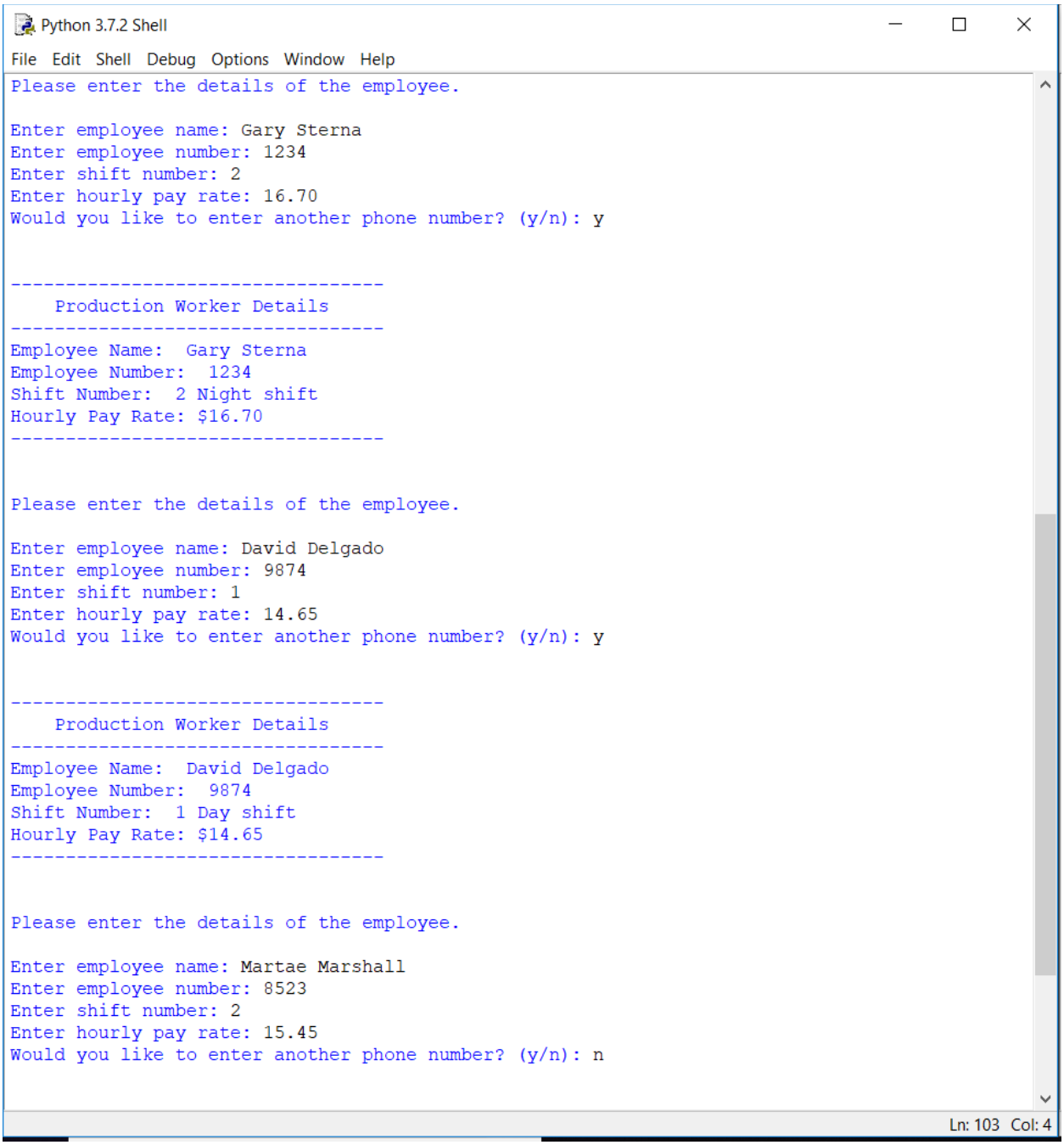
```
111             break
112
113         while True:
114             emp_num = input('Enter employee number: ')
115
116             if not emp_num:
117                 print('\nInvalid input: Employee number cannot be empty.')
118                 continue
119
120             try:
121                 emp_num = int(emp_num)
122
123             except:
124                 print('\nInvalid input: Please type a number.')
125                 continue
126
127             else:
128                 break
129
130         while True:
131             shift_num = input('Enter shift number: ')
132
133             if not shift_num:
134                 print('\nInvalid input: Shift number cannot be empty.')
135                 continue
136
137             try:
138                 shift_num = int(shift_num)
139
```

```
140             except:
141                 print('\nInvalid input: Please type a number.')
142                 continue
143 
144             else:
145                 break
146 
147         while True:
148             hourly_rate = input('Enter hourly pay rate: ')
149 
150             if not hourly_rate:
151                 print('\nInvalid input: Hourly pay rate cannot be empty.')
152                 continue
153 
154             try:
155                 hourly_rate = float(hourly_rate)
156 
157             except:
158                 print('\nInvalid input: Please type a number.')
159                 continue
160 
161             else:
162                 break
163 
164         while True:
165             enterAgain = input('Would you like to enter another phone number? (y/n): ')
166 
167             if not enterAgain:
168                 print('\nInvalid input: Employee name cannot be empty.')
```

```
169                 continue
170
171             else:
172                 break
173
174         employee = ProductionWorker(name, emp_num, shift_num, hourly_rate)
175
176         print('\n\n---------------------------------')
177         print('    Production Worker Details')
178         print('---------------------------------')
179
180         print('Employee Name: ', employee.getEmployeeName())
181         print('Employee Number: ', employee.getEmployeeNum())
182
183         if (employee.getShiftNum() == 1):
184             print('Shift Number: ', employee.getShiftNum(), 'Day shift')
185
186         elif (employee.getShiftNum() == 2):
187             print('Shift Number: ', employee.getShiftNum(), 'Night shift')
188
189         print('Hourly Pay Rate: $' + '%.2f' % employee.getHourlyRate())
190         print('---------------------------------\n\n')
191
192         if (enterAgain != 'y'):
193             print('Thank you for using the Production Worker Details program.')
194             break
195
196 # Call the main function to start the program.
197 main()
```

Output Result:




Python 3.7.2 Shell
File Edit Shell Debug Options Window Help
Please enter the details of the employee.
Enter employee name: Gary Sterna
Enter employee number: 1234
Enter shift number: 2
Enter hourly pay rate: 16.70
Would you like to enter another phone number? (y/n): y

Production Worker Details

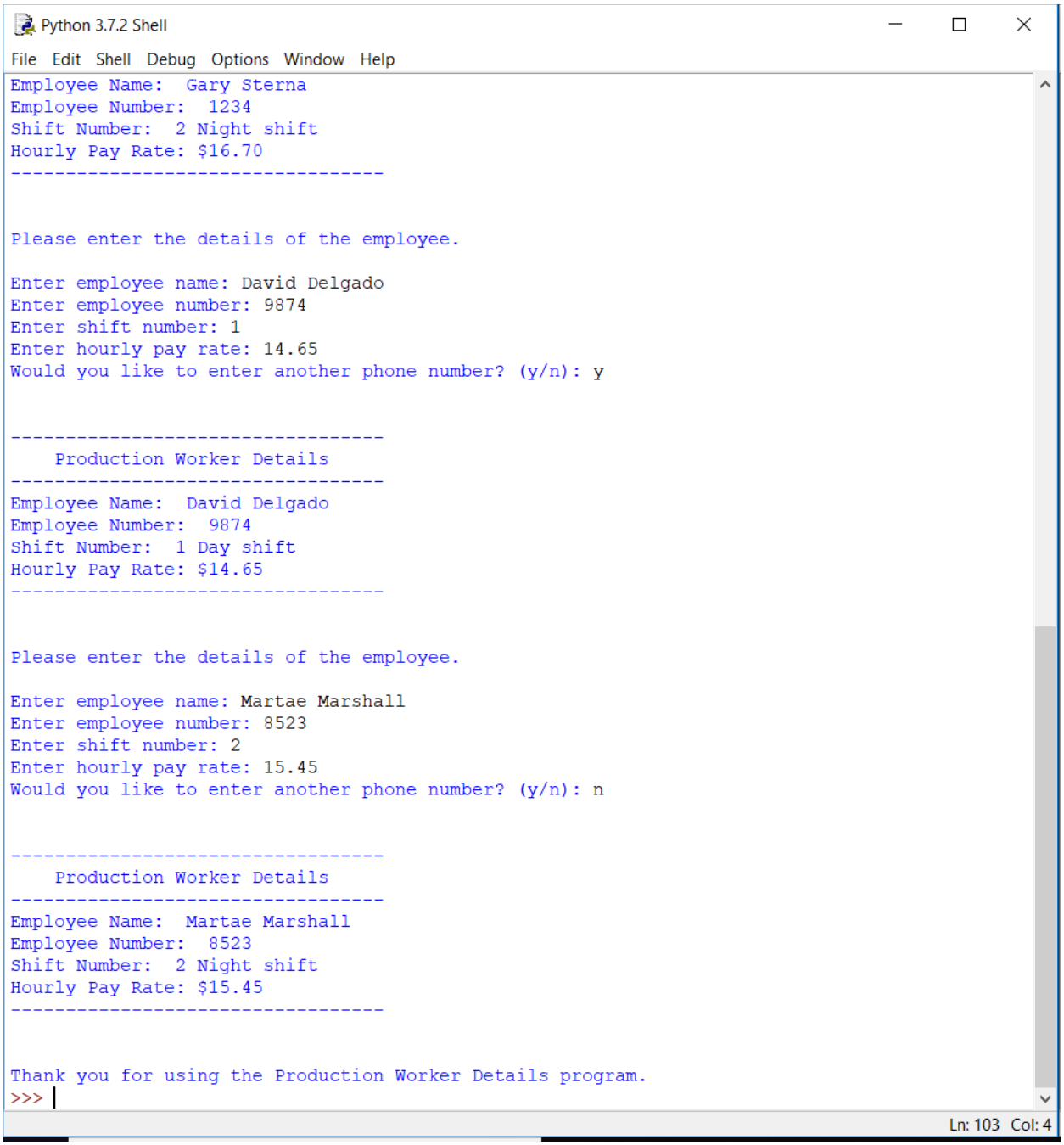
Employee Name: Gary Sterna
Employee Number: 1234
Shift Number: 2 Night shift
Hourly Pay Rate: $16.70

Please enter the details of the employee.
Enter employee name: David Delgado
Enter employee number: 9874
Enter shift number: 1
Enter hourly pay rate: 14.65
Would you like to enter another phone number? (y/n): y

Production Worker Details

Employee Name: David Delgado
Employee Number: 9874
Shift Number: 1 Day shift
Hourly Pay Rate: $14.65

Please enter the details of the employee.
Enter employee name: Martae Marshall
Enter employee number: 8523
Enter shift number: 2
Enter hourly pay rate: 15.45
Would you like to enter another phone number? (y/n): n
Ln: 103 Col: 4


Python 3.7.2 Shell
File Edit Shell Debug Options Window Help
Employee Name: Gary Sterna
Employee Number: 1234
Shift Number: 2 Night shift
Hourly Pay Rate: $16.70
Please enter the details of the employee.
Enter employee name: David Delgado
Enter employee number: 9874
Enter shift number: 1
Enter hourly pay rate: 14.65
Would you like to enter another phone number? (y/n): y
Production Worker Details
Employee Name: David Delgado
Employee Number: 9874
Shift Number: 1 Day shift
Hourly Pay Rate: $14.65
Please enter the details of the employee.
Enter employee name: Martae Marshall
Enter employee number: 8523
Enter shift number: 2
Enter hourly pay rate: 15.45
Would you like to enter another phone number? (y/n): n
Production Worker Details
Employee Name: Martae Marshall
Employee Number: 8523
Shift Number: 2 Night shift
Hourly Pay Rate: $15.45
Thank you for using the Production Worker Details program.
>>>
Ln: 103 Col: 4

```
Please enter the details of the employee.

Enter employee name:

Invalid input: Employee name cannot be empty.
Enter employee name: Martae Marshall
Enter employee number:

Invalid input: Employee number cannot be empty.
Enter employee number: yo

Invalid input: Please type a number.
Enter employee number: 8523
Enter shift number:

Invalid input: Shift number cannot be empty.
Enter shift number: night

Invalid input: Please type a number.
Enter shift number: 2
Enter hourly pay rate:

Invalid input: Hourly pay rate cannot be empty.
Enter hourly pay rate: money

Invalid input: Please type a number.
Enter hourly pay rate: 15.45
Would you like to enter another phone number? (y/n): n


---------------------------------
    Production Worker Details
---------------------------------
Employee Name:  Martae Marshall
Employee Number:  8523
Shift Number:  2 Night shift
Hourly Pay Rate: $15.45
---------------------------------


Thank you for using the Production Worker Details program.
>>>
```

Ln: 183 Col: 4