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| **Program 01** |
| **Output** |
| >>>  ======= RESTART: /Users/biniamlemma/Desktop/CSCI\_2061/Assn\_05/part1.py =======  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Payroll Program \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Data Input \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  Please enter the number of employees: 3  Data entry for employee 1  Enter the employee name:  'Name cannot be zero length'  Please Start over  Data entry for employee 1  Enter the employee name: aaa  Enter the employee wage rate (0..20): I am a string!  Data entered in incorrect format  Please start over  Data entry for employee 1  Enter the employee name: aaa  Enter the employee wage rate (0..20): -33  'Hourly rate must be between 0 and 20'  Please Start over  Data entry for employee 1  Enter the employee name: aaa  Enter the employee wage rate (0..20): 20  Enter the employee hours (0..60): 1000  'Hours must be between 0 and 60'  Please Start over  Data entry for employee 1  Enter the employee name: aaa  Enter the employee wage rate (0..20): 20  Enter the employee hours (0..60): 20  Data entry for employee 2  Enter the employee name: bbb  Enter the employee wage rate (0..20): 18  Enter the employee hours (0..60): 30  Data entry for employee 3  Enter the employee name: ccc  Enter the employee wage rate (0..20): 16  Enter the employee hours (0..60): 40  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Payroll Data \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  Employee: aaa  Hours: 20.0  Rate: $20.0/hr  Wage: $400.0  Employee: bbb  Hours: 30.0  Rate: $18.0/hr  Wage: $540.0  Employee: ccc  Hours: 40.0  Rate: $16.0/hr  Wage: $640.0  >>> |
| **Source Code** |
| # CSCI 2061, Assignment 05, Problem 01  # Biniam Lemma  # Employee Payroll Program  # main program  def main():  print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Payroll Program \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")  print()  print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Data Input \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")  numEmployees = int(input("Please enter the number of employees: "))  print()  employeeNames = []  employeeRates = []  employeeHours = []  employeeWages = []  # loop to enter payroll data  for employeeNumber in range(numEmployees):  while True:  print("Data entry for employee {}".format(employeeNumber + 1))  # throw exceptions  try:  name = readName()  rate = readRate()  hours = readHours()    except EmpNameError as e:  print(e, "\nPlease Start over\n")  continue  except RateError as e:  print(e, "\nPlease Start over\n")  continue  except HoursError as e:  print(e, "\nPlease Start over\n")  continue  except ValueError as e:  print("Data entered in incorrect format\nPlease start over\n")  continue  except TypeError as e:  print("Data entered in incorrect format\nPlease start over\n")  continue  else:  employeeNames.append(name)  employeeRates.append(rate)  employeeHours.append(hours)  employeeWages.append(employeeHours[employeeNumber] \* employeeRates[employeeNumber])  print()  break  print()  print()  print()  print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Payroll Data \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")  for employeeNumber in range(numEmployees):  print("Employee: {}".format(employeeNames[employeeNumber]))  print(" Hours: {}".format(employeeHours[employeeNumber]))  print(" Rate: ${}/hr".format(employeeRates[employeeNumber]))  print(" Wage: ${}".format(employeeWages[employeeNumber]))  print()  #Thrown if employee name is zero length  class EmpNameError(Exception):  def \_\_init\_\_(self, value):  self.value = value  def \_\_str\_\_(self):  return repr(self.value)  #Thrown if hourly rate <0 or > 20  class RateError(Exception):  def \_\_init\_\_(self, value):  self.value = value  def \_\_str\_\_(self):  return repr(self.value)  # Thrown if weekly hours <0 OR > 60  class HoursError(Exception):  def \_\_init\_\_(self, value):  self.value = value  def \_\_str\_\_(self):  return repr(self.value)  # function readName  def readName():  ret = input("Enter the employee name: ")  if ret == "":  raise EmpNameError('Name cannot be zero length')  else: return ret  # function readRate  def readRate():  ret = float(input("Enter the employee wage rate (0..20): "))  if ret < 0 or ret > 20:  raise RateError('Hourly rate must be between 0 and 20')  else: return ret  # function readHours  def readHours():  ret = float(input("Enter the employee hours (0..60): "))  if ret < 0 or ret > 60:  raise HoursError('Hours must be between 0 and 60')  else: return ret  if \_\_name\_\_ == "\_\_main\_\_": main() |

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| **Program 02** |
| **Output** |
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| **Source Code** |
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| **Program 03** |
| **Output** |
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| **Source Code** |
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| **Program 04** |
| **Output** |
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| **Source Code** |
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| **Program 05** |
| **Output** |
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| **Source Code** |
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