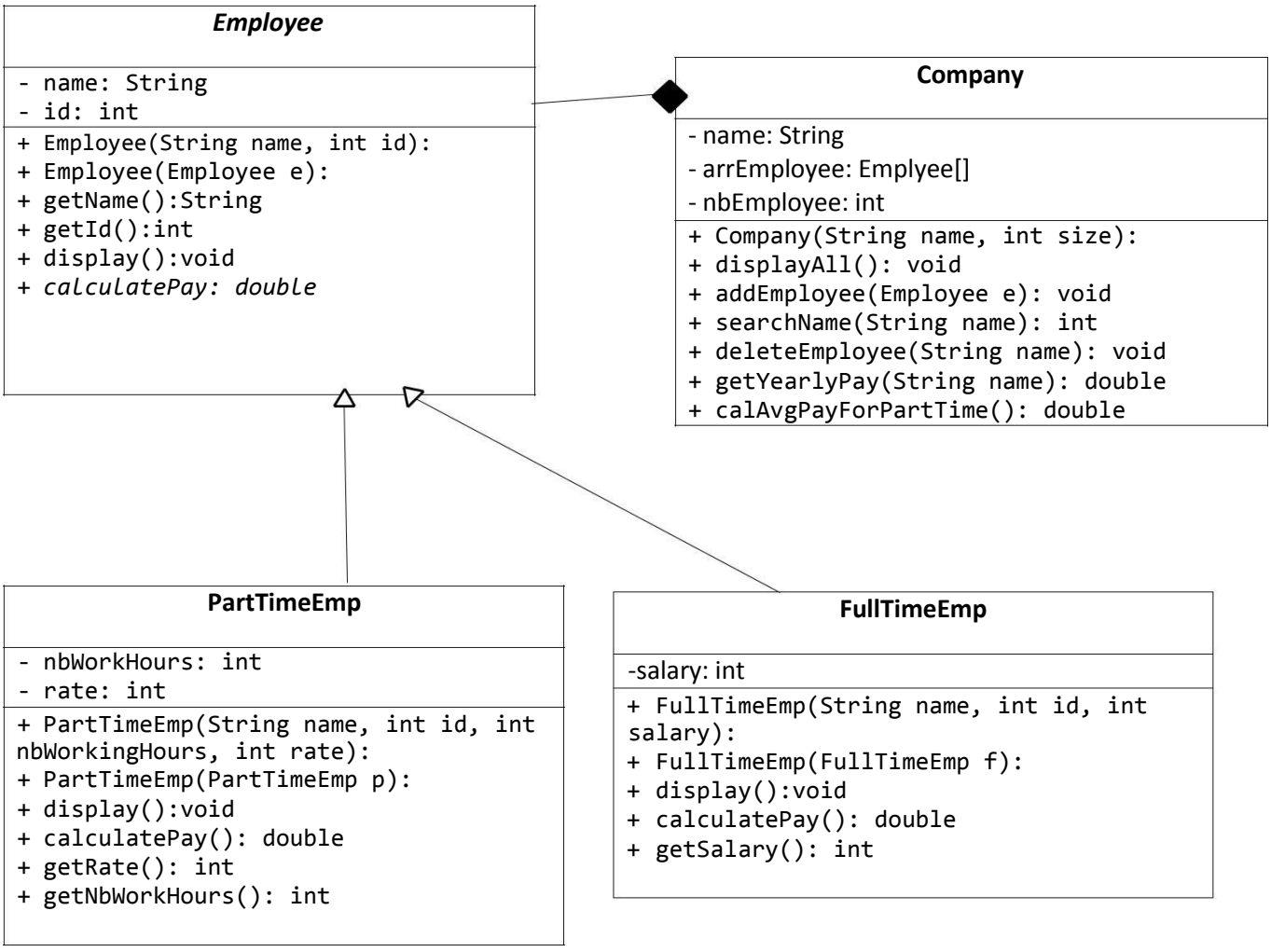
King Saud University

College of Computer and Information Sciences

CSC113 Computer Programming II

Exception Handling lab – Fall 2016-2017



Employee

Attributes:

- name: name of the employee
- id: employee Id number

Methods:

- Employee(String name, int id)
- Employee(Employee e)
- getName()
- getId()
- display()
    - display the employee information
- calculatePay()
    - Abstract method.

PartTimeEmp

Attributes:

- nbWorkHours: number of weekly hours the employee works.
- rate: pay rate for each hour.

Methods:

- PartTimeEmp(String name, int id, int nbWorkingHours, int rate)
- PartTimeEmp(PartTimeEmp p)
- display()
    - display the part-time employee information
- calculatePay()
    - calculate and return the monthly pay for the part time employee as follows: Monthly pay = number of hours each week * 4 * rate
- getRate()
- getNbWorkHours()

FullTimeEmp

Attributes:

- salary: Employee monthly

salary Methods:

- FullTimeEmp(String name, int id, int salary)
- FullTimeEmp(FullTimeEmp f)

- display()
    - display the full-time employee information
- calculatePay()
    - calculate and return the monthly pay for the part time employee as follows
      Monthly pay = the salary after 9% deduction for social insurance.
- getSalary()

Company

Attributes:

- name: company name
- arrEmployee:
- nbEmployee:

Methods:

- Company(String name, int size)
    - throws an exception when the array is created with a negative size. (NegativeArraySizeException)
- displayAll()
    - display all the employees information.
- addEmployee(Employee e)
    - add new employee to the company,
    - You must check the array size and throw (IllegalStateException) when trying to add while the array is full.
- searchName(String name)
    - search for the employee in the company and return the index, if the name doesn't exist return -1
- deleteEmployee(String name)
    - uses the method (searchName())
    - deletes the employee given
    - the method throws (IndexOutOfBoundException) when trying to delete non-existent employee.
- getYearlyPay()
    - get yearly pay for the employee
- calAvgPayForPartTime()
    - calculate the average pay for all the part-time employees,
    - throws (ArithmeticException) when there're not any part-time employees in the company, since you will be dividing by zero.