MDS

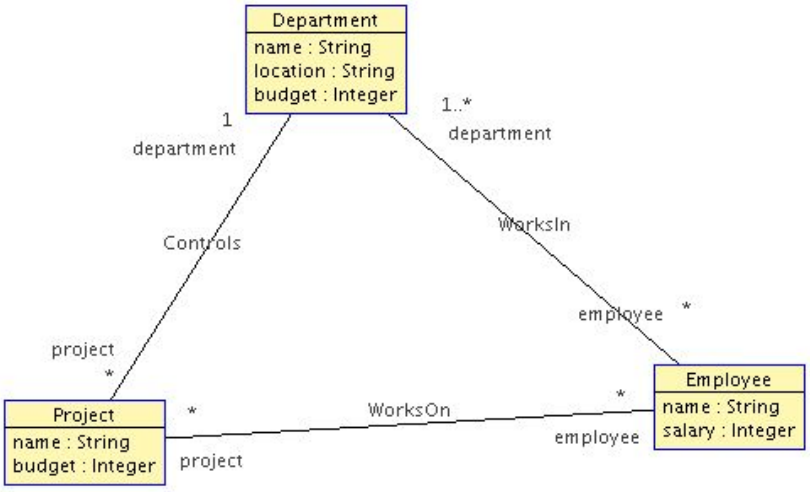
Primeiro semestre 2016/2017

Quiz 3

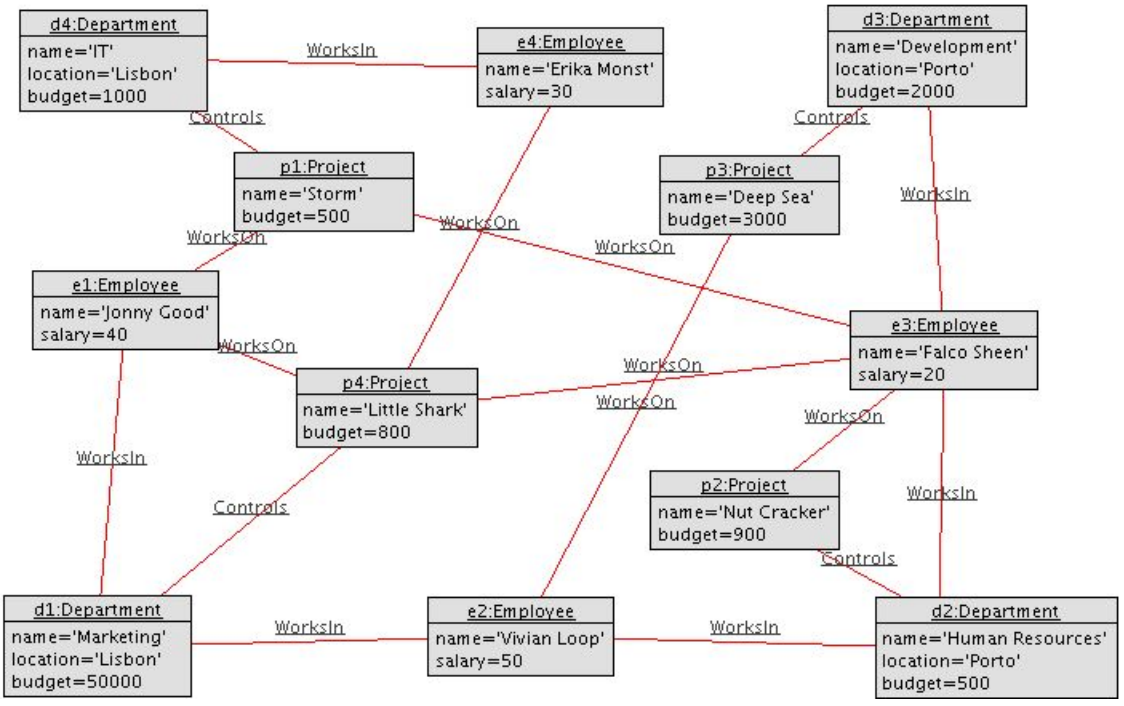
Semana de 14/11/2016

(code: 1420)
SOLUTIONS

Suppose that a System Analyst, after doing a domain analysis, designs the following class diagram related to a specific company:



Consider that we have the following object diagram (instances of conformant to the previous model):



Taking into consideration the previous diagrams:

1- Consider the following OCL expression:
p1.department.employee.forAll(e:Employee\| e.salary<=50)

The result of evaluating the previous expression is (choose one):

a) Bag{'Erica Monst','Falko Sheen','Johnny Good','Vivian Loop'} : Bag(String)
b)'Erica Monst' : String
c)Bag{'Erica Monst'} : Bag(String)
e) @e4: Employee
f) 30 : Integer
g) Bag{@e4} : Bag(Employee)
h) Set{30} : Set(Integer)
i) Bag{@e1,@e2,@e3,@e4} : Bag(Employee)
j) Set{@e1,@e2,@e3,@e4} : Set(Employee)
k) True: Boolean
l) False: Boolean

2- Given the following OCL expressions identify which is true (T) or false OCL, in the context of the previous diagrams:

FALSE a) context Project inv inv1: self.department.employee->includesAll(self.employee)
FALSE b) context Employee inv: self.department.select(budget>1000)->isEmpty()
FALSE c) context Departament inv: self.employee.select(salary<50)->forAll(v|v.salary>30)
FALSE d) context Departament inv: self.employee.select(salary>20)->forAll(v|v.project->isEmpty())
FALSE e) context Department inv: not Department.allInstances->exists(d1,d2| d1<>d2 implies d1.budget<>d2.budget)

MDS

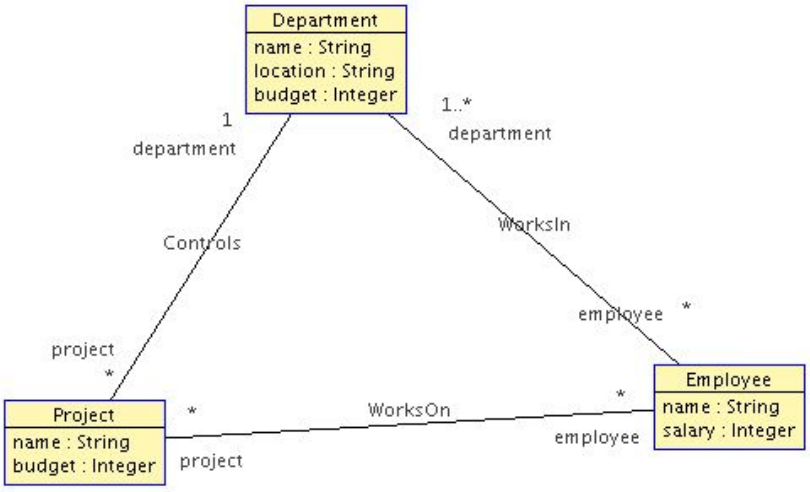
Primeiro semestre 2016/2017

Quiz 3

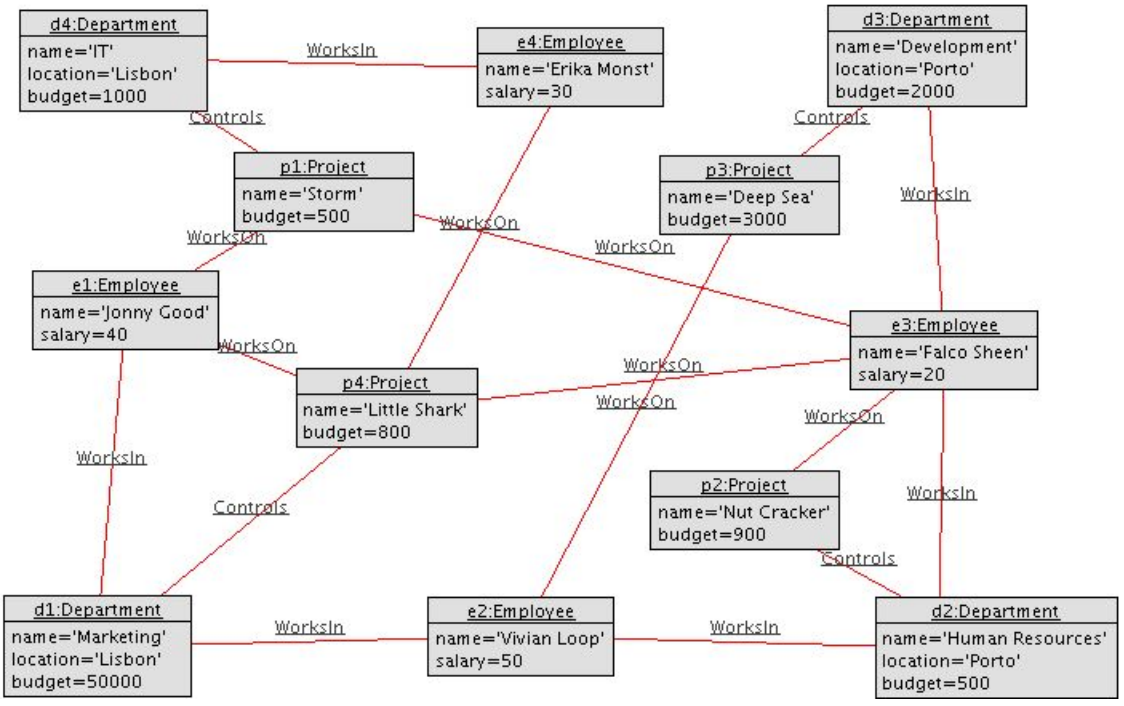
Semana de 14/11/2016

(code: 2420)

Suppose that a System Analyst, after doing a domain analysis, designs the following class diagram related to a specific company:



Consider that we have the following object diagram (instances of conformant to the previous model):



Taking into consideration the previous diagrams:

1- Consider the following OCL expression:
p1.department.employee.select(e:Employee\| e.salary<=50)

The result of evaluating the previous expression is (choose one):

a) Bag{'Erica Monst','Falko Sheen','Johnny Good','Vivian Loop'} : Bag(String)
b) 'Erica Monst' : String
c) Bag{'Erica Monst'} : Bag(String)
e) @e4: Employee
f) 30 : Integer
g) Bag{@e4} : Bag(Employee) SHOULD BE SET NOT BAG.... ACCEPT
h) Set{30} : Set(Integer)
i) Bag{@e1,@e2,@e3,@e4} : Bag(Employee)
j) Set{@e1,@e2,@e3,@e4} : Set(Employee)
k) True: Boolean
l) False: Boolean

2- Given the following OCL expressions identify which is true (T) or false OCL, in the context of the previous diagrams:

TRUE a)context Department inv: not Department.allInstances->forAll(d1,d2\| d1.budget<>d2.budget)
FALSE b) context Department inv: not Department.allInstances->exists(d1,d2\| d1<>d2 implies d1.budget<>d2.budget)
FALSE c) context Project inv g: (self.budget <= self.department.budget)
FALSE d) context Department inv e: (self.employee->size > self.project->size)
FALSE e) context Project inv g: (self.budget <= self.department.budget)

MDS

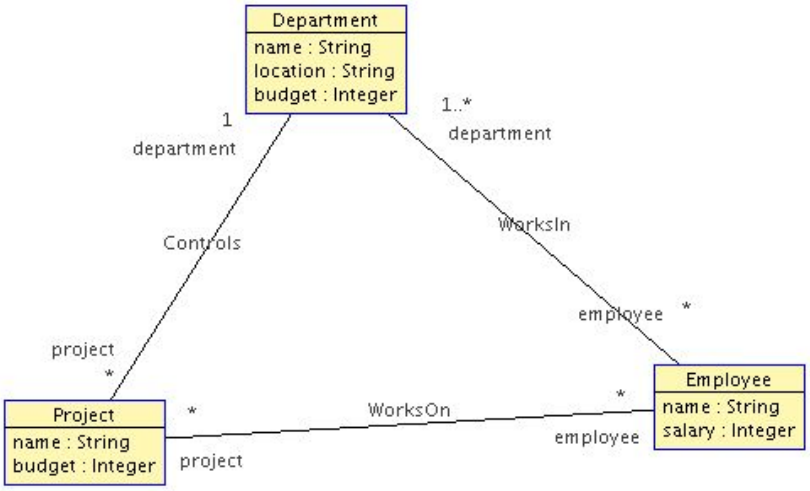
Primeiro semestre 2016/2017

Quiz 3

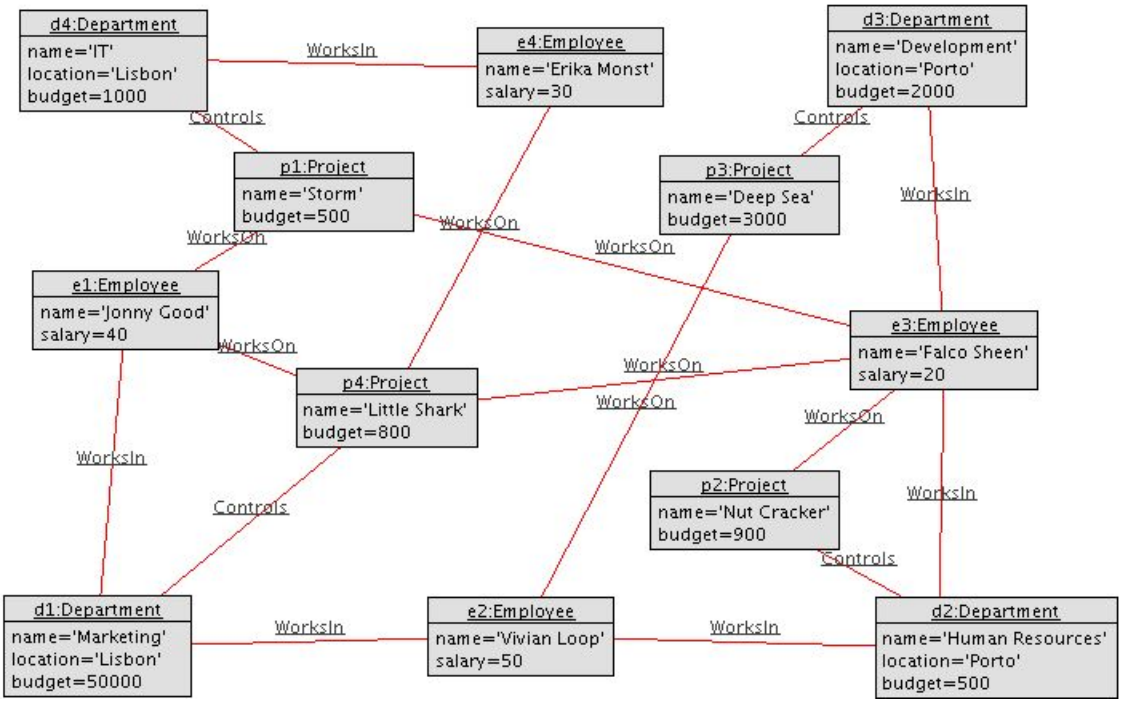
Semana de 22/11/2016

(code: 3420)
SOLUTIONS

Suppose that a System Analyst, after doing a domain analysis, designs the following class diagram related to a specific company:



Consider that we have the following object diagram (instances of conformant to the previous model):



Taking into consideration the previous diagrams:

1- Consider the following OCL expression:
Department.allInstances->select(x\| x.budget < 1000).name

The result of evaluating the previous expression is (choose one):

a) 'Human Resources' : String
b) @d2: Department
c) Bag{@d2} : Bag(Department)
d) Set{@d2} : Set(Department)
e) Set{'Human Resources'} : Set(String)
f) Bag{'Human Resources'} : Bag(String)
g) Syntax Error - badly formed sentence
h) True: Boolean
i) False: Boolean

2- Given the following OCL expressions identify which is true (T) or false OCL, in the context of the previous diagrams:

TRUE a) context Project inv inv1: not self.department.employee->includesAll(self.employee)
FALSE b) context Employee inv: self.department.select(budget>1000)->isEmpty()
TRUE c) context Departament inv: not self.employee.select(salary<50)->forAll(v|v.salary>30)
FALSE d) context Departament inv: self.employee.select(salary>20)->forAll(v|v.project->isEmpty())
TRUE e) context Department inv: Department.allInstances->exists(d1,d2| d1<>d2 implies d1.budget<>d2.budget)

MDS

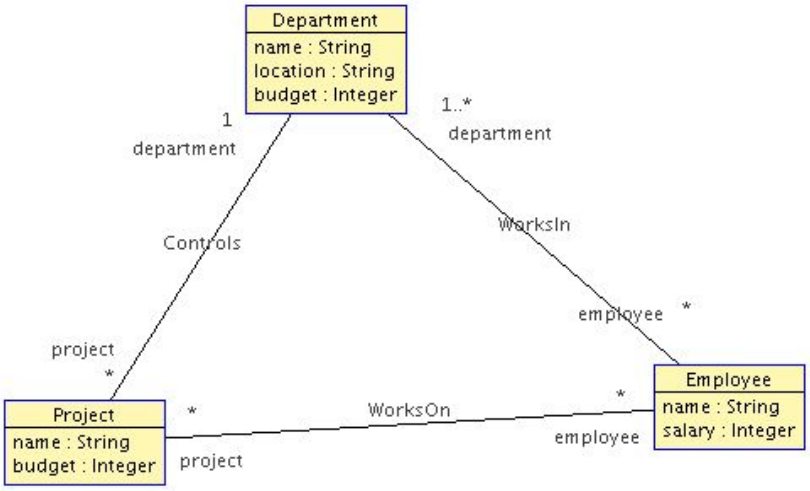
Primeiro semestre 2016/2017

Quiz 3

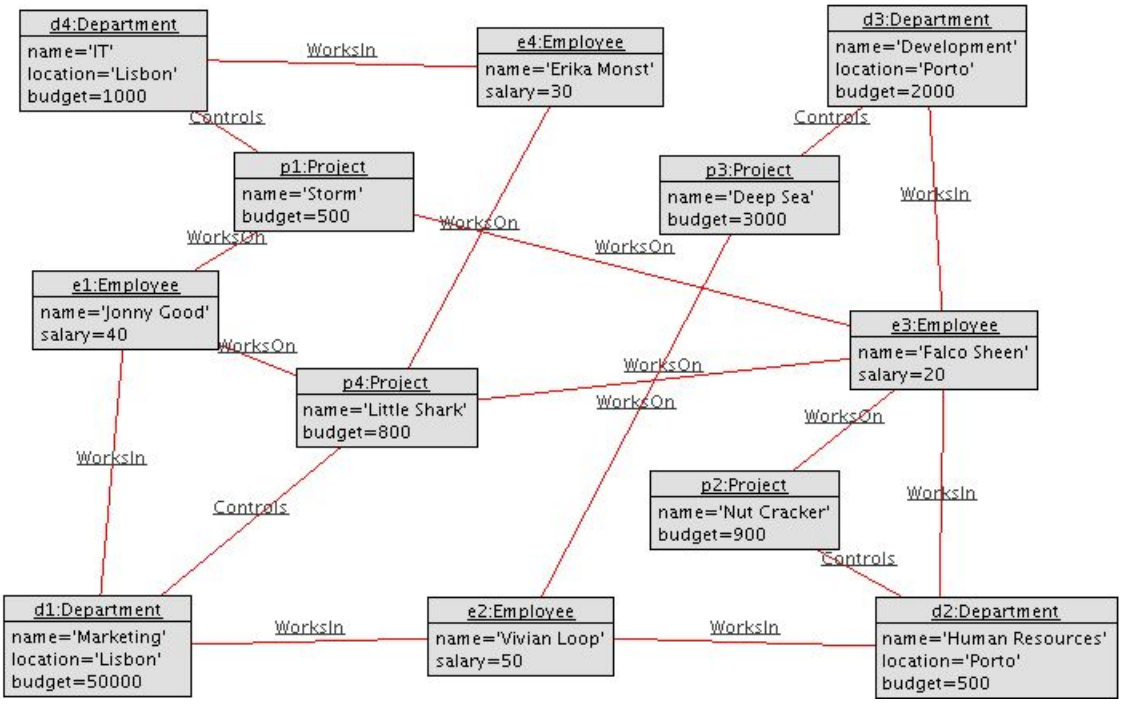
Semana de 22/11/2016

(code: 4420)
SOLUTIONS

Suppose that a System Analyst, after doing a domain analysis, designs the following class diagram related to a specific company:



Consider that we have the following object diagram (instances of conformant to the previous model):



Taking into consideration the previous diagrams:

1- Consider the following OCL expression:
Department.allInstances->select(x\| x.budget < 1000).name

The result of evaluating the previous expression is (choose one):

a) True: Boolean
b) Bag{@d2} : Bag(Department)
c) Set{@d2} : Set(Department)
d) Set{'Human Resources'} : Set(String)
e) Syntax Error - badly formed sentence
e) False: Boolean
f) Bag{'Human Resources'} : Bag(String)
g) 'Human Resources' : String
h) @d2: Department

2- Given the following OCL expressions identify which is true (T) or false OCL, in the context of the previous diagrams:

TRUE a)context Department inv: not Department.allInstances->forAll(d1,d2\| d1.budget<>d2.budget)
FALSE b) context Department inv: not Department.allInstances->exists(d1,d2\| d1<>d2 implies d1.budget<>d2.budget)
FALSE c) context Project inv g: (self.budget <= self.department.budget)
FALSE d) context Department inv e: (self.employee->size > self.project->size)
TRUE e) context Departament inv: not self.employee.select(salary<50)->forAll(v\|v.salary>30)