

ДОДАТОК А

JESS-код експертної системи з визначення захворювань

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(import com.cleanproject.project.client.model.Consultation)

(import com.cleanproject.project.client.model.Fact)
(import com.cleanproject.project.client.model.Ratio)
(deftemplate Consultation (declare (from-class Consultation)))
(deftemplate Fact (declare (from-class Fact)))
(deftemplate Ratio (declare (from-class Ratio)))
(defrule Rule0(Fact(question ««»)(answer ««»))=>(bind ?1 (new
java.util.ArrayList))(call ?1 add "Discharge from the Eye")(call ?1 add "Bulging
Eye")(call ?1 add "Double Vision")(call ?1 add ««Drooping Eyelid»»)(add(New
Consultation Rule0 «Choose one of the problem areas згорнути» ?1)))
(defrule Rule1(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))=>(bind ?1 (new java.util.ArrayList))(call ?1 add
"yes")(call ?1 add "no")(add(New Consultation Rule1 "Are you suffer from eyes
red?" ?1)))
(defrule Rule2(Fact(question «Choose one of the problem areas згорнути»)(answer
"Bulging Eye"))=>(bind ?1 (new java.util.ArrayList))(add(New Consultation Rule2
«« ?1»)(add(new Ratio 1 1)))
(defrule Rule3(Fact(question «Choose one of the problem areas згорнути»)(answer
"Double Vision"))=>(bind ?1 (new java.util.ArrayList))(add(New Consultation
Rule3 «« ?1»)(add(new Ratio 1 1)))
(defrule Rule4(Fact(question «Choose one of the problem areas згорнути»)(answer
««Drooping Eyelid»»))=>(bind ?1 (new java.util.ArrayList))(add(New Consultation
Rule4 «« ?1»)(add(new Ratio 1 1)))
(defrule Rule5(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"yes"))=>(bind ?1 (new java.util.ArrayList))(call ?1 add "yes")(call ?1 add
"no")(add(New Consultation Rule5 «Are you suffer from eyes swollen eyelids ?»
?1)))
(defrule Rule6(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"no"))=>(bind ?1 (new java.util.ArrayList))(call ?1 add "yes")(call ?1 add
"no")(add(New Consultation Rule6 «Are you suffer from swelling of eyelids,
tongue and face?» ?1)))
(defrule Rule7(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"yes"))(Fact(question «Are you suffer from eyes swollen eyelids ?»)(answer
"yes"))=>(bind ?1 (new java.util.ArrayList))(call ?1 add "yes")(call ?1 add
"no")(add(New Consultation Rule7 «Are you suffer from pus like discharge and
crusting of eyelids on awakening ?» ?1)))
(defrule Rule8(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"yes"))(Fact(question «Are you suffer from eyes swollen eyelids ?»)(answer
"no"))=>(bind ?1 (new java.util.ArrayList))(call ?1 add "yes")(call ?1 add
"no")(add(New Consultation Rule8 «Are you suffer from watery discharge, seasonal
allergies, itching eyes ?» ?1)))
(defrule Rule9(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"no"))(Fact(question «Are you suffer from swelling of eyelids, tongue and
face?»)(answer "yes"))=>(bind ?1 (new java.util.ArrayList))(call ?1 add
"yes")(call ?1 add "no")(add(New Consultation Rule9 «Якщо ви цураємося від
свердління, використовуйте нову медицину, insect bite, нову їжу, швидкий heart
beat?» ?1)))
(defrule Rule10(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
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"no"))(Fact(question «Are you suffer from swelling of eyelids, tongue and
face?»)(answer "no"))=>(bind ?1 (new java.util.ArrayList))(call ?1 add
"yes")(call ?1 add "no")(add(New Consultation Rule10 «Are you suffer from eyes
red with watery discharge?» ?1)))
(defrule Rule11(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"yes"))(Fact(question «Are you suffer from eyes swollen eyelids ?»)(answer
"yes"))(Fact(question «Are you suffer from pus like discharge and crusting of
eyelids on awakening ?»)(answer "yes"))=>(bind ?1 (new
java.util.ArrayList))(add(New Consultation Rule11 «Якщо ви бачите від Bacterial
Conjunctivitis of blepharitis» ?1))(add(new Ratio 1 2)))
(defrule Rule12(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"yes"))(Fact(question «Are you suffer from eyes swollen eyelids ?»)(answer
"yes"))(Fact(question «Are you suffer from pus like discharge and crusting of
eyelids on awakening ?»)(answer "no"))=>(bind ?1 (new java.util.ArrayList))(call
?1 add "yes")(call ?1 add "no")(add(New Consultation Rule12 «Are you suffer from
sticky, crusty eyelids, red itchy eyelids, loss of eyelashes?» ?1)))
(defrule Rule13(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"yes"))(Fact(question «Are you suffer from eyes swollen eyelids ?»)(answer
"no"))(Fact(question «Are you suffer from watery discharge, seasonal allergies,
itching eyes ?»)(answer "yes"))=>(bind ?1 (new java.util.ArrayList))(add(New
Consultation Rule13 «Ви маєте справу з Allergic Conjunctivitis OR viral
conjunctivitis» ?1))(add(new Ratio 1 1)))
(defrule Rule14(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"yes"))(Fact(question «Are you suffer from eyes swollen eyelids ?»)(answer
"no"))(Fact(question «Are you suffer from watery discharge, seasonal allergies,
itching eyes ?»)(answer "no"))=>(bind ?1 (new java.util.ArrayList))(call ?1 add
"yes")(call ?1 add "no")(add(New Consultation Rule14 «Якби ви помітили від
дрібниць і тріщини, рожевий рісень, починаючи на face the body, clear discharge
from eye ?» ?1)))
(defrule Rule15(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"no"))(Fact(question «Are you suffer from swelling of eyelids, tongue and
face?»)(answer "yes"))(Fact(question «Якщо ви цураємося від свердління,
використовуйте нову медицину, insect bite, нову їжу, швидкий heart
beat?»)(answer "yes"))=>(bind ?1 (new java.util.ArrayList))(add(New Consultation
Rule15 «Якщо ви збираєтесь від Allergy OR Anaphylaxis» ?1))(add(new Ratio 1 1)))
(defrule Rule16(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"no"))(Fact(question «Are you suffer from swelling of eyelids, tongue and
face?»)(answer "yes"))(Fact(question «Якщо ви цураємося від свердління,
використовуйте нову медицину, insect bite, нову їжу, швидкий heart
beat?»)(answer "no"))=>(bind ?1 (new java.util.ArrayList))(add(New Consultation
Rule16 «Ви повинні бути для вас симптоми .. Try again...» ?1))(add(new Ratio 1
1)))
(defrule Rule17(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"no"))(Fact(question «Are you suffer from swelling of eyelids, tongue and
face?»)(answer "no"))(Fact(question «Are you suffer from eyes red with watery
discharge?»)(answer "yes"))=>(bind ?1 (new java.util.ArrayList))(call ?1 add
"yes")(call ?1 add "no")(add(New Consultation Rule17 «Якби ви лишалися від
хлопчика центрованого навколо ока, headaches зазвичай продовжують 15-30 хвилин,
більше ніхто в нім, насаль дихання?» ?1)))
(defrule Rule18(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"no"))(Fact(question «Are you suffer from swelling of eyelids, tongue and
face?»)(answer "no"))(Fact(question «Are you suffer from eyes red with watery
discharge?»)(answer "no"))=>(bind ?1 (new java.util.ArrayList))(call ?1 add
"yes")(call ?1 add "no")(add(New Consultation Rule18 «Are you suffer from
blurred vision?» ?1)))

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(defrule Rule19(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"yes"))(Fact(question «Are you suffer from eyes swollen eyelids ?»)(answer
"yes"))(Fact(question «Are you suffer from pus like discharge and crusting of
eyelids on awakening ?»)(answer "no"))(Fact(question «Are you suffer from
sticky, crusty eyelids, red itchy eyelids, loss of eyelashes?»)(answer
"yes"))=>(bind ?1 (new java.util.ArrayList))(add(New Consultation Rule19 «Ви
робите від Blepharitis OR Conjunctivitis OR Stye.» ?1))(add(new Ratio 1 1)))
(defrule Rule20(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"yes"))(Fact(question «Are you suffer from eyes swollen eyelids ?»)(answer
"yes"))(Fact(question «Are you suffer from pus like discharge and crusting of
eyelids on awakening ?»)(answer "no"))(Fact(question «Are you suffer from
sticky, crusty eyelids, red itchy eyelids, loss of eyelashes?»)(answer
"no"))=>(bind ?1 (new java.util.ArrayList))(call ?1 add "yes")(call ?1 add
"no")(add(New Consultation Rule20 «Are you suffer from watery discharge, fever
and sore throat, swollen glands in neck ?» ?1)))
(defrule Rule21(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"yes"))(Fact(question «Are you suffer from eyes swollen eyelids ?»)(answer
"no"))(Fact(question «Are you suffer from watery discharge, seasonal allergies,
itching eyes ?»)(answer "no"))(Fact(question «Якби ви помітили від дрібниць і
тріщини, рожевий рісень, починаючи на face the body, clear discharge from eye
?»)(answer "yes"))=>(bind ?1 (new java.util.ArrayList))(add(New Consultation
Rule21 «Ви маєте відмінність від Measles OR Viral Conjunctivitis.» ?1))(add(new
Ratio 1 1)))
(defrule Rule22(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"yes"))(Fact(question «Are you suffer from eyes swollen eyelids ?»)(answer
"no"))(Fact(question «Are you suffer from watery discharge, seasonal allergies,
itching eyes ?»)(answer "no"))(Fact(question «Якби ви помітили від дрібниць і
тріщини, рожевий рісень, починаючи на face the body, clear discharge from eye
?»)(answer "no"))=>(bind ?1 (new java.util.ArrayList))(add(New Consultation
Rule22 «Ви повинні бути для ваших симптомів.. Try again...» ?1))(add(new Ratio 1
1)))
(defrule Rule23(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"no"))(Fact(question «Are you suffer from swelling of eyelids, tongue and
face?»)(answer "no"))(Fact(question «Are you suffer from eyes red with watery
discharge?»)(answer "yes"))(Fact(question «Якби ви лишалися від хлопчика
центрованого навколо ока, headaches зазвичай продовжують 15-30 хвилин, більше
ніхто в нім, насаль дихання?»)(answer "yes"))=>(bind ?1 (new
java.util.ArrayList))(add(New Consultation Rule23 «Ви спостерігаєте за Cluster
Headache OR Migraine Headache OR Allergic Rhinitis.» ?1))(add(new Ratio 1 1)))
(defrule Rule24(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"no"))(Fact(question «Are you suffer from swelling of eyelids, tongue and
face?»)(answer "no"))(Fact(question «Are you suffer from eyes red with watery
discharge?»)(answer "yes"))(Fact(question «Якби ви лишалися від хлопчика
центрованого навколо ока, headaches зазвичай продовжують 15-30 хвилин, більше
ніхто в нім, насаль дихання?»)(answer "no"))=>(bind ?1 (new
java.util.ArrayList))(call ?1 add "yes")(call ?1 add "no")(add(New Consultation
Rule24 «Are you suffer from more common in elderly people, may develop pus like
drainage from eye?» ?1)))
(defrule Rule25(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"no"))(Fact(question «Are you suffer from swelling of eyelids, tongue and
face?»)(answer "no"))(Fact(question «Are you suffer from eyes red with watery
discharge?»)(answer "no"))(Fact(question «Are you suffer from blurred
vision?»)(answer "yes"))=>(bind ?1 (new java.util.ArrayList))(call ?1 add
"yes")(call ?1 add "no")(add(New Consultation Rule25 «Якби ви ходили з рота і
рожеві, excessive tearing, sensitivity to light, лунати з foreign body in eye ?»
?1)))

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(defrule Rule26(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"no"))(Fact(question «Are you suffer from swelling of eyelids, tongue and
face?»)(answer "no"))(Fact(question «Are you suffer from eyes red with watery
discharge?»)(answer "no"))(Fact(question «Are you suffer from blurred
vision?»)(answer "no"))=>(bind ?l (new java.util.ArrayList))(call ?l add
"yes")(call ?l add "no")(add(New Consultation Rule26 «Якби ви помітили від
weakness of one side of the face, recent viral illness, drooping of lower
eyelid, difficulty closing eyelid, discharge from the eye ?» ?l)))
(defrule Rule27(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"yes"))(Fact(question «Are you suffer from eyes swollen eyelids ?»)(answer
"yes"))(Fact(question «Are you suffer from pus like discharge and crusting of
eyelids on awakening ?»)(answer "no"))(Fact(question «Are you suffer from
sticky, crusty eyelids, red itchy eyelids, loss of eyelashes?»)(answer
"no"))(Fact(question «Are you suffer from watery discharge, fever and sore
throat, swollen glands in neck ?»)(answer "yes"))=>(bind ?l (new
java.util.ArrayList))(add(New Consultation Rule27 «Ви маєте справу з Viral
Conjunctivitis OR allergic conjunctivitis» ?l))(add(new Ratio 1 1)))
(defrule Rule28(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"yes"))(Fact(question «Are you suffer from eyes swollen eyelids ?»)(answer
"yes"))(Fact(question «Are you suffer from pus like discharge and crusting of
eyelids on awakening ?»)(answer "no"))(Fact(question «Are you suffer from
sticky, crusty eyelids, red itchy eyelids, loss of eyelashes?»)(answer
"no"))(Fact(question «Are you suffer from watery discharge, fever and sore
throat, swollen glands in neck ?»)(answer "no"))=>(bind ?l (new
java.util.ArrayList))(add(New Consultation Rule28 «Ви повинні бути для ваших
симптомів.. Try again...» ?l))(add(new Ratio 1 1)))
(defrule Rule29(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"no"))(Fact(question «Are you suffer from swelling of eyelids, tongue and
face?»)(answer "no"))(Fact(question «Are you suffer from eyes red with watery
discharge?»)(answer "yes"))(Fact(question «Якби ви лишалися від хлопчика
центрованого навколо ока, headaches зазвичай продовжують 15-30 хвилин, більше
ніхто в нім, насаль дихання?»)(answer "no"))(Fact(question «Are you suffer from
more common in elderly people, may develop pus like drainage from eye?»)(answer
"yes"))=>(bind ?l (new java.util.ArrayList))(add(New Consultation Rule29 «Ви
маєте справу з Dacryocystitis OR Styte OR Conjunctivitis» ?l))(add(new Ratio 1
1)))
(defrule Rule30(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"no"))(Fact(question «Are you suffer from swelling of eyelids, tongue and
face?»)(answer "no"))(Fact(question «Are you suffer from eyes red with watery
discharge?»)(answer "yes"))(Fact(question «Якби ви лишалися від хлопчика
центрованого навколо ока, headaches зазвичай продовжують 15-30 хвилин, більше
ніхто в нім, насаль дихання?»)(answer "no"))(Fact(question «Are you suffer from
more common in elderly people, may develop pus like drainage from eye?»)(answer
"no"))=>(bind ?l (new java.util.ArrayList))(add(New Consultation Rule30 «Ви
повинні бути для ваших симптомів.. Try again...» ?l))(add(new Ratio 1 1)))
(defrule Rule31(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"no"))(Fact(question «Are you suffer from swelling of eyelids, tongue and
face?»)(answer "no"))(Fact(question «Are you suffer from eyes red with watery
discharge?»)(answer "no"))(Fact(question «Are you suffer from blurred
vision?»)(answer "yes"))(Fact(question «Якби ви ходили з рота і рожеві,
excessive tearing, sensitivity to light, лунати з foreign body in eye ?»)(answer
"yes"))=>(bind ?l (new java.util.ArrayList))(add(New Consultation Rule31 «Ви
бачите від Corneal Abrasion OR Corneal Ulcer.» ?l))(add(new Ratio 1 1)))
(defrule Rule32(Fact(question «Choose one of the problem areas згорнути»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"no"))(Fact(question «Are you suffer from swelling of eyelids, tongue and
face?»)(answer "no"))(Fact(question «Are you suffer from eyes red with watery

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discharge?»)(answer "no"))(Fact(question «Are you suffer from blurred
vision?»)(answer "yes"))(Fact(question «Якби ви ходили з рота і рожеві,
excessive tearing, sensitivity to light, лунати з foreign body in eye ?»)(answer
"no"))=>(bind ?l (new java.util.ArrayList))(call ?l add "yes")(call ?l add
"no")(add(New Consultation Rule32 «Якби ви робили з очей рожевий глухий кут на
очах ячня, лямант може drain pus, плачений лямп?» ?l)))
(defrule Rule33(Fact(question «Choose one of the problem areas згорнуті»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"no"))(Fact(question «Are you suffer from swelling of eyelids, tongue and
face?»)(answer "no"))(Fact(question «Are you suffer from eyes red with watery
discharge?»)(answer "no"))(Fact(question «Are you suffer from blurred
vision?»)(answer "no"))(Fact(question «Якби ви помітили від weakness of one side
of the face, recent viral illness, drooping of lower eyelid, difficulty closing
eyelid, discharge from the eye ?»)(answer "yes"))=>(bind ?l (new
java.util.ArrayList))(add(New Consultation Rule33 «Ви маєте від Bell's Palsy OR
Multiple Sclerosis OR Stroke OR Acoustic Neuroma...» ?l))(add(new Ratio 1 1)))
(defrule Rule34(Fact(question «Choose one of the problem areas згорнуті»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"no"))(Fact(question «Are you suffer from swelling of eyelids, tongue and
face?»)(answer "no"))(Fact(question «Are you suffer from eyes red with watery
discharge?»)(answer "no"))(Fact(question «Are you suffer from blurred
vision?»)(answer "no"))(Fact(question «Якби ви помітили від weakness of one side
of the face, recent viral illness, drooping of lower eyelid, difficulty closing
eyelid, discharge from the eye ?»)(answer "no"))=>(bind ?l (new
java.util.ArrayList))(add(New Consultation Rule34 «Ви повинні бути для ваших
симптомів.. Try again...» ?l))(add(new Ratio 1 1)))
(defrule Rule35(Fact(question «Choose one of the problem areas згорнуті»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"no"))(Fact(question «Are you suffer from swelling of eyelids, tongue and
face?»)(answer "no"))(Fact(question «Are you suffer from eyes red with watery
discharge?»)(answer "no"))(Fact(question «Are you suffer from blurred
vision?»)(answer "yes"))(Fact(question «Якби ви ходили з рота і рожеві,
excessive tearing, sensitivity to light, лунати з foreign body in eye ?»)(answer
"no"))(Fact(question «Якби ви робили з очей рожевий глухий кут на очах ячня,
лямант може drain pus, плачений лямп?»)(answer "yes"))=>(bind ?l (new
java.util.ArrayList))(add(New Consultation Rule35 «You are suffering from Stye
OR Chalazion...» ?l))(add(new Ratio 1 1)))
(defrule Rule36(Fact(question «Choose one of the problem areas згорнуті»)(answer
"Discharge from the Eye"))(Fact(question "Are you suffer from eyes red?")(answer
"no"))(Fact(question «Are you suffer from swelling of eyelids, tongue and
face?»)(answer "no"))(Fact(question «Are you suffer from eyes red with watery
discharge?»)(answer "no"))(Fact(question «Are you suffer from blurred
vision?»)(answer "yes"))(Fact(question «Якби ви ходили з рота і рожеві,
excessive tearing, sensitivity to light, лунати з foreign body in eye ?»)(answer
"no"))(Fact(question «Якби ви робили з очей рожевий глухий кут на очах ячня,
лямант може drain pus, плачений лямп?»)(answer "no"))=>(bind ?l (new
java.util.ArrayList))(add(New Consultation Rule36 «Ви повинні бути для ваших
симптомів.. Try again...» ?l))(add(new Ratio 1 1)))

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