

Homework #1

과목: 비즈니스프로세스관리

요일: 금123

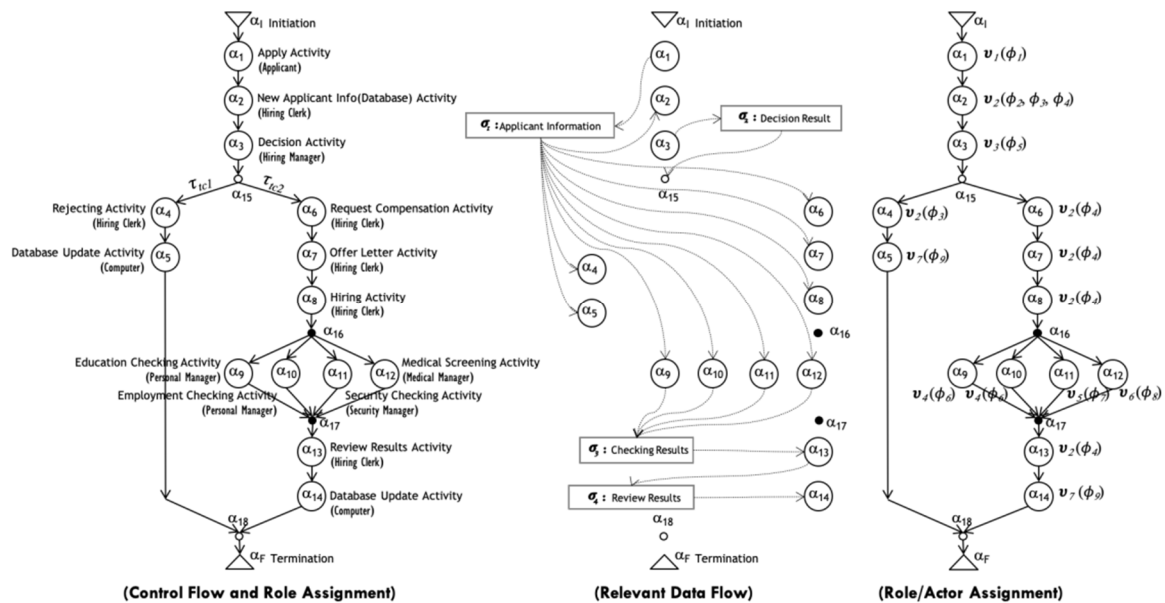
전공: 컴퓨터공학부

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2.5 연습문제

그림 2.8에 나타난 정보제어넷 기반 직원채용처리 비즈니스 프로세스 모델에 대한 다음의 질문에 답하시오.



1. 직원채용처리 비즈니스 프로세스의 정보제어넷 모델에 대한 프로세스(제어 흐름) 정의에 따른 액티비티 선후행 함수($f: \delta$) 적용결과를 나타내시오.

비즈니스프로세스관리 #1. 컴퓨터공학 2015/18317 이상민

1.

$A_{work} = \delta_1 \sim \delta_{14}$

$A_{gateway} = \text{~~and-}\delta_7~~ \text{ xor-}\delta_{15} \text{ and-}\delta_{16} \text{ , and-}\delta_{17} \text{ , xor-}\delta_{18}$

$A_{event} = \text{~~and-}\delta_F~~ \text{ Initiation, } \delta_F$

$\delta = (\delta_i \vee) \delta_o$

$\delta = \delta_p(\vee \delta_s)$

$\delta_s(\text{~~and-}\delta_7~~) = \delta_1$
 $\delta_{Initiation}$

$\delta_p(\text{~~and-}\delta_7~~) = \emptyset$
 $\delta_{Initiation}$

$\delta_s(\delta_1) = \delta_2$

$\delta_p(\delta_1) = \delta_{Initiation}$

$\delta_s(\delta_2) = \delta_3$

$\delta_p(\delta_2) = \delta_1$

$\delta_s(\delta_3) = \text{~~and-}\delta_{15}~~ \text{ xor-}\delta_{15}$

$\delta_p(\delta_3) = \delta_2$

$\delta_s(\text{~~and-}\delta_{15}~~) = \delta_4, \delta_6$
 $\delta_{xor-\delta_{15}}$

$\delta_p(\text{~~and-}\delta_{15}~~) = \delta_3$
 $\delta_{xor-\delta_{15}}$

$\delta_s(\delta_4) = \delta_5$

$\delta_p(\delta_4) = \text{~~and-}\delta_{15}~~ \text{ xor-}\delta_{15}$

$\delta_s(\delta_5) = \text{~~and-}\delta_{18}~~ \text{ xor-}\delta_{18}$

$\delta_p(\delta_5) = \text{~~and-}\delta_{15}~~ \text{ xor-}\delta_{15}$

$\delta_s(\delta_6) = \delta_7$

$\delta_p(\delta_6) = \delta_4$

$\delta_s(\delta_7) = \delta_8$

$\delta_p(\delta_7) = \delta_6$

$\delta_s(\delta_8) = \text{~~and-}\delta_{16}~~ \text{ and-}\delta_{16}$

$\delta_p(\delta_8) = \delta_7$

$\delta_s(\text{~~and-}\delta_{16}~~) = \delta_9, \delta_{10}, \delta_{11}, \delta_{12}$
 $\delta_{and-\delta_{16}}$

$\delta_p(\text{and-}\delta_{16}) = \delta_8$

$\delta_s(\delta_9) = \text{~~and-}\delta_{17}~~ \text{ and-}\delta_{17}$

$\delta_p(\delta_9) = \text{and-}\delta_{16}$

$\delta_s(\delta_{10}) = \text{~~and-}\delta_{17}~~ \text{ and-}\delta_{17}$

$\delta_p(\delta_{10}) = \text{and-}\delta_{16}$

$\delta_s(\delta_{11}) = \text{~~and-}\delta_{17}~~ \text{ and-}\delta_{17}$

$\delta_p(\delta_{11}) = \text{and-}\delta_{16}$

$\delta_s(\delta_{12}) = \text{~~and-}\delta_{17}~~ \text{ and-}\delta_{17}$

$\delta_p(\delta_{12}) = \text{and-}\delta_{16}$

$\delta_s(\text{~~and-}\delta_{17}~~) = \delta_{13}$
 $\delta_{and-\delta_{17}}$

$\delta_p(\text{and-}\delta_{17}) = \delta_9, \delta_{10}, \delta_{11}, \delta_{12}$

$\delta_s(\delta_{13}) = \delta_{14}$

$\delta_p(\delta_{13}) = \text{and-}\delta_{17}$

$\delta_s(\delta_{14}) = \text{~~and-}\delta_{18}~~ \text{ xor-}\delta_{18}$

$\delta_p(\delta_{14}) = \delta_{13}$

$\delta_s(\text{~~and-}\delta_{18}~~) = \delta_F$
 $\delta_{xor-\delta_{18}}$

$\delta_p(\text{xor-}\delta_{18}) = \delta_{15}, \delta_{14}$

$\delta_s(\delta_F) = \emptyset$

$\delta_p(\delta_F) = \text{~~and-}\delta_{18}~~ \text{ xor-}\delta_{18}$

2. 직원채용처리 비즈니스 프로세스의 정보제어넷 모델에 대한 프로세스(제어 흐름) 정의에 따른
 천이 조건 선후행 함수(f) : x) 적용결과를 나타내시오.

$$2. \text{Anork} = d_1 \sim d_{14}$$

$$\text{Agotenoy} = \text{xor-}d_{15}, \text{ and-}d_{16}, \text{ and-}d_{17}, \text{ xor-}d_{18}$$

$$\text{Aevent} = d_{\text{Initiation}}, d_F$$

$$T = T_{\text{default}}, T_{tc1}, T_{tc2}$$

$$S = X_p(U, X_s)$$

$$X_p(d_{\text{Initiation}}) = \emptyset$$

$$X_p(d_1) = T_{\text{default}}$$

$$X_p(d_2) = T_{\text{default}}$$

$$X_p(d_3) = T_{\text{default}}$$

$$X_p(\text{xor-}d_{15}) = T_{\text{default}}$$

$$X_p(d_4) = T_{tc1}$$

$$X_p(d_6) = T_{tc2}$$

$$X_p(d_5) = T_{\text{default}}$$

$$X_p(d_n) = T_{\text{default}}$$

$$X_p(d_8) = T_{\text{default}}$$

$$X_p(d_9) = T_{\text{default}}$$

$$X_p(d_{10}) = T_{\text{default}}$$

$$X_p(d_{11}) = T_{\text{default}}$$

$$X_p(d_{12}) = T_{\text{default}}$$

$$X_p(d_{13}) = T_{\text{default}}$$

$$X_p(d_{14}) = T_{\text{default}}$$

$$\text{~~Xp(d15) = Tdefault~~}$$

$$X_p(\text{and-}d_{16}) = T_{\text{default}}$$

$$X_p(\text{and-}d_{17}) = T_{\text{default}}$$

$$X_p(\text{xor-}d_{18}) = T_{\text{default}}$$

$$X_p(d_F) = T_{\text{default}}$$

$$F(X_p U) X_s$$

$$X_s(d_{\text{Initiation}}) = T_{\text{default}}$$

$$X_s(d_1) = T_{\text{default}}$$

$$X_s(d_2) = T_{\text{default}}$$

$$X_s(d_3) = T_{\text{default}}$$

$$X_s(\text{xor-}d_{15}) = T_{tc1}, T_{tc2}$$

$$X_s(d_4) = T_{\text{default}}$$

$$X_s(d_5) = T_{\text{default}}$$

$$X_s(d_6) = T_{\text{default}}$$

$$X_s(d_n) = T_{\text{default}}$$

$$X_s(d_8) = T_{\text{default}}$$

$$X_s(d_9) = T_{\text{default}}$$

$$X_s(d_{10}) = T_{\text{default}}$$

$$X_s(d_{11}) = T_{\text{default}}$$

$$X_s(d_{12}) = T_{\text{default}}$$

$$X_s(d_{13}) = T_{\text{default}}$$

$$X_s(d_{14}) = T_{\text{default}}$$

$$X_s(\text{and-}d_{16}) = T_{\text{default}}$$

$$X_s(\text{and-}d_{17}) = T_{\text{default}}$$

$$X_s(\text{xor-}d_{18}) = T_{\text{default}}$$

$$X_s(d_F) = \emptyset$$

3. 직원채용처리 비즈니스 프로세스의 정보제어넷 모델에 대한 연관데이터(데이터 흐름) 정의에 따른 연관 데이터 입출력 함수($f: p$) 적용결과를 나타내시오.

$$3. \text{ Awork} = a_1 \sim a_{14}$$

$$\text{Agateway} = \text{xor-}a_5, \text{ and-}a_{10}, \text{ and-}a_{11}, \text{ xor-}a_{18}$$

$$\text{Aevent} = a_{\text{Initiation}}, a_F$$

$$D = o_1 \sim o_4$$

$$P = p_i \cup p_o$$

$$p_i(a_1) = \emptyset$$

$$p_o(a_1) = o_1$$

$$p_i(a_2) = \emptyset$$

$$p_o(a_2) = \emptyset$$

$$p_i(a_3) = \emptyset$$

$$p_o(a_3) = o_2$$

$$p_i(a_4) = o_1$$

$$p_o(a_4) = \emptyset$$

$$p_i(a_5) = o_1$$

$$p_o(a_5) = \emptyset$$

$$p_i(a_6) = o_1$$

$$p_o(a_6) = \emptyset$$

$$p_i(a_7) = o_1$$

$$p_o(a_7) = \emptyset$$

$$p_i(a_8) = o_1$$

$$p_o(a_8) = \emptyset$$

$$p_i(a_9) = o_1$$

$$p_o(a_9) = o_3$$

$$p_i(a_{10}) = o_1$$

$$p_o(a_{10}) = o_3$$

$$p_i(a_{11}) = o_1$$

$$p_o(a_{11}) = o_3$$

$$p_i(a_{12}) = o_1$$

$$p_o(a_{12}) = o_3$$

$$p_i(a_{13}) = o_3$$

$$p_o(a_{13}) = o_4$$

$$p_i(a_{14}) = o_4$$

$$p_o(a_{14}) = \emptyset$$

4. 직원채용처리 비즈니스 프로세스의 정보제어넷 모델에 대한 연관데이터(데이터 흐름) 정의에 따른 액티버티 입출력 함수($f: \beta$) 적용결과를 나타내시오.

$$T. A_{work} = \alpha_1 \sim \alpha_{14}$$

$$D = \sigma_1 \sim \sigma_4$$

$$B_{in} = \beta_i \vee \beta_o$$

$$\beta_i(\sigma_1) = \alpha_2, \alpha_4, \alpha_5, \alpha_6, \alpha_7, \alpha_8, \alpha_9, \alpha_{10}, \alpha_{11}, \alpha_{12}$$

$$\beta_i(\sigma_2) = \emptyset$$

$$\beta_i(\sigma_3) = \alpha_{13}$$

$$\beta_i(\sigma_4) = \alpha_{14}$$

$$\beta_o(\sigma_1) = \alpha_1$$

$$\beta_o(\sigma_2) = \alpha_3$$

$$\beta_o(\sigma_3) = \alpha_9, \alpha_{10}, \alpha_{11}, \alpha_{12}$$

$$\beta_o(\sigma_4) = \alpha_{13}$$

5. 직원채용처리 비즈니스 프로세스의 정보제어넷 모델에 대한 역할 및 수행자 정의에 따른 역할 할당 함수($f: \eta$) 적용결과를 나타내시오.

$$5. \quad A_{work} = a_1 \sim a_{14}$$

$$R = v_1 \sim v_n$$

$$P = p_1 \sim p_n$$

$$\eta = \eta_a \cup \eta_r$$

$$\eta_a(a_1) = v_1$$

$$\eta_a(a_2) = v_2$$

$$\eta_a(a_3) = v_3$$

$$\eta_a(a_4) = v_2$$

$$\eta_a(a_5) = v_n$$

$$\eta_a(a_6) = v_2$$

$$\eta_a(a_7) = v_2$$

$$\eta_a(a_8) = v_2$$

$$\eta_a(a_9) = v_4$$

$$\eta_a(a_{10}) = v_4$$

$$\eta_a(a_{11}) = v_5$$

$$\eta_a(a_{12}) = v_6$$

$$\eta_a(a_{13}) = v_2$$

$$\eta_a(a_{14}) = v_n$$

$$\eta_r(v_1) = a_1$$

$$\eta_r(v_2) = a_2, a_4, a_6, a_7, a_8, a_{13}$$

$$\eta_r(v_3) = a_1$$

$$\eta_r(v_4) = a_9, a_{10}$$

$$\eta_r(v_5) = a_{11}$$

$$\eta_r(v_6) = a_{12}$$

$$\eta_r(v_n) = a_5, a_{14}$$

6. 직원채용처리 비즈니스 프로세스의 정보제어넷 모델에 대한 역할 및 수행자 정의에 따른 수행자배정 함수($f: \lambda$) 적용결과를 나타내시오.

$$b. A_{work} = a_1 \sim a_{14}$$

$$R = v_1 \sim v_7$$

$$P = \phi_1 \sim \phi_9$$

$$\lambda = \lambda_r(v) \lambda_p$$

$$\lambda = (\lambda_r v) \lambda_p$$

$$\lambda_r(v_1) = \phi_1$$

$$\lambda_p(\phi_1) = v_1$$

$$\lambda_r(v_2) = \phi_2 \phi_3 \phi_4$$

$$\lambda_p(\phi_2) = v_2$$

$$\lambda_r(v_3) = \phi_5$$

$$\lambda_p(\phi_3) = v_2$$

$$\lambda_r(v_4) = \phi_6$$

$$\lambda_p(\phi_4) = v_2$$

$$\lambda_r(v_5) = \phi_7$$

$$\lambda_p(\phi_5) = v_3$$

$$\lambda_r(v_6) = \phi_8$$

$$\lambda_p(\phi_6) = v_4$$

$$\lambda_r(v_7) = \phi_9$$

$$\lambda_p(\phi_7) = v_5$$

$$\lambda_p(\phi_8) = v_6$$

$$\lambda_p(\phi_9) = v_7$$