Written + Programming Assignment Srivey land Frythe (try) + It ple a M718099 (a) In = y[muffor(n) n chocolate(n) n muffinly) n chocolate(y) n n + y) n + z [muffin(z) n chocolate(z) -> (z=n vz=y)] (b) - Inty [cat(n) 1 smark rat (y) 1 likes (n, y)) liker(n,y): n liles y standard ned a la diago sobjete (i) (C) E(n): Class average in English (1) (1) tx [E(n) nm(n) -> E(n) > m(n)] (d) & n [Deamond(n) v platinum(n)] -> precions(n) (e) submit(n): submit assignments in couse X 5-1710 passen): pan with good grades in course X 1 10 - mont o-9 ** (-) S(n) -> (S(n) -) +n [-submit(n) -> (submit(z) -> pass(x))] (f) angry (n): n'is argry should (sd): n is a shall hurgry(n): n is hurgry whateln): n is a whate of n ((chark(n) v whale(x)) n (angrylm) whongry(n)) -> outack(x) attack (x): n attacks. (9) Vn [fish(n) -> swirn(n)] (a) Eat (n,t): Mary come ext n at time to Many (): n is many East () n can east y at time to

He Fortance +1 Bytt Far (my, t)

(n) Eat (y, t): Many can eat by at time t Jytt Early,t) A tyJtfatly,t) A tytt 7 Fatlyit) (i) fan (n): n's a fan likes (x, y) ? n'is a killer, superhero (n): n's a superhero killerla): n's a killer, Fr fan(n) n ty superheroly) nlikes (n,y) -> - killer(y) (i) stopkeeper(n): n ?s a stopkeeper with m: (p. m) with. customer (x): n'es a customer sells (n, y): n sells to your of species will: (1) (2) Ty shopkeeper(y) a t n customer(n) a member(n) -sells (y,n) Quee-2. Init (Object (a) nobject (x) 1 Varmat (Top-left) a H-arm At (Bottom-right) Goal (Object (O) n - Object (x)) - (m) (4) and (4) (4) (4) wholes is a shall (" Nathous in (1 ") (pacedo (upapas) A. handah(u) u is mudah Achon Move Varm - Vertical (V-aim, vertical) effect: V-aum-At Romer) , Row (v) , Armilu) 2) Action Move-Honzontal (H-am, honzontal). 1) Action Move-Arm Carm, direction):

precon dition: Arm At(L,r) ~ Row(r) ~ cohemic) effect: 7 ArmAt (CIV)

D'Achon Move_V.a.m. Horizontal (V.a.m., horizontal): precondition: At column(c) a No of Objects In Goal Position(1) a
Object At Goal Position (0) a Object (6) Cffect 1 -> Atcolumn(C) 10 (3) Action V-arm-burstobject (V-arm) jobject): precondition: Object At(e,r) & V-aum At(c,r) & Empty (v-aum) Effect: 70bject At(C,r) ~ V-am At(c,r) ~ Empty(v-am) (4) Action Hamma move-vertical (Ham, Vertical): pre condition: Vam-obstructed Atlar) A Row (r) effect: - v-arm-obstructed Atles v) Att-arm-At (x) (5) Action pick-object (ann, object) in) Action pick-object (ann, object) in

precondition: object At (c,r) a Annat (c,r) a Empty (ann) a

object (o) effect : Atmatic. 1 how Empty (ann) drop-object (aim; object): precondition: Arm At (CIV) (EmptyAt(C, V) 106 ject(0) (6) Author effect; supring (cox) N = Emphy Atte, reg modern org fords Arvarque (Porch) Elys of: mode unrounce ment (seminar, noil, shoews) (E) Action (perfora): force there preferrer procede (professors) a professor shooping (prof - A food Available (field) (frust) helicite recognition (land)

(3) Action Move V. com. Horizortal (V-com, Norizontal) Quei-3 (1) problems know all alle job from a Comenar Date Init (Organising-Head (Kehitij) & Seminar Date (date) & Organising Committee (committee) « Lecture (Professor X) A Venue ((C102)) (more w) plant A (r.o) + A more V i (r. x) A traple : modernes org Actions Trace-permission (department, for) pre condition: No Pennisson (department, for) a Department (department) effect: - NoPenthission (department, for) D'Action Invite (professor X): pre condition: professor Available At (date) effect: professor Invited At (date) (3) Action arrangefunds (fonds, from):

precordition: Need (fords) n department (Accounts) effect of moleculary (fords) (ma) the moleculary (4) Action make announcement (about, by, to): pre cordition: professor Invited (profesor X) A Neme (Clor) A N N fonds Arvanged (fonds) effect: mode-announce ment (seminar, mail, stridents) 9 (5) Action Lunch (professors): precendition: professor Present (professors) ~ professors hergry (prof)
r food Available (food)

effect: professorthroppy (prof)

6) Action get Internet (venue, IT): effect: Check Internet (YES) ~ Venue (C-102) ~

check Internet (YES) Achion get Equipments (Venue, FMS)? Précordition: department (FMS) 1 NoEquipments At (venue) 7 Achion Effect: - No Equipments At (venure) (8) Action clean Venire (venire, Fors): precondition: No Clean Venue (venue) adepartment (fine) effect: - Nollean venne (venne) fixTiming (date, Academics) pre condition: Noschedule Seminar (date) ndepartment (Academics) (9) Action effect: Noschedule Seminar (date) Leurahor Logenster Norgh IV Capte a gra X - Life シーへ過一 ライトトノー

Questy TI , rome of terrent (verse, III (m) ? n is a paratha (11) to med agos C(n): n le Chenopodivintersont. 15000 R(oc): x is Radish Fat (n): J. eat. n : 200. V) estronginge esp like (n): 9 like a m) " man engel hungrighn): 9 sleep hungry man my magnification ((m) = R(m)) D'An (P(m) -> (((m) -> ¬R(m))) 2 An [P(x) N like (n)] - eat (n)] (3) MAR (CCM) -> - R(m)] -> - like (2) Rational Color (b) - like (m) - reat (m) 1111 (14) -7 eat (n) -> muggy Cas continos stabourss. Assuming, all predicates have been universally instanticated. · ((ccn) => - R(n)) as X.) Deuration Formula steps given $\neg P \lor X$ goren > [r like] V E X -> - Like goven -Ale - - E goven negation conclusion eat 5. 1,3 (Resolution) -PN-Like 6. Resolution: @ > @ x silce vE . 2,4 7. 78 like VTE 6,7 8. - Like 4, 8 7E 9. 5,9 . Indicates emply clause: 10 . Contradiction.

The empty clause contradicts our assumption, i.e., I did did n't ceut anything.

Hence, I will sleep hungry. (from 5)