Assignment_04

Zhang Huakang | D-B92760-6

6.

a) Randy Goldberg in enrolled in CS 252.

b) Exist a student who is enrolled in Math 695.

c) Exist a class which Carol Sitea is enrolled in.

d) Exist a student who is enrolled both in Math 222 and in CS 252.

e) Exist two different students, if one of them is in any class then another is also in there.

f) Exist two different students, one of them is in any class if and only if another is also in there.

20

a) Let x,y are two negative integers

$$\forall x, \forall y, x \times y > 0$$

b) Let x,y are two positive integers

$$\forall x, \forall y, \frac{x \times y}{2} > 0$$

c) Let x and y is two integers

$$\exists x \exists y, (x < 0) \wedge (y < 0) \wedge (x - y \geq 0)$$

d) Let x and y are two integers

$$\forall x, \forall y, |x + y| \leq |x| + |y|$$

24.

a) Exist a number x , and for all number y , x plus y equal to y

b) For all number x and for all number y, if x is larger 0 or equal to 0 and y is smaller than 0, then x-y is larger than 0.

c) Exist a number x which is smaller than 0 or equal to 0 , exist a number y which is larger than 0 or euqal to 0 , x-y is larger than 0.

d) The product of two number is not zer0 if ans only if every number is nonzero number.

32

a) $\exists z \forall y \forall x, \neg T(x, y, z)$

b) $\forall x \forall y \neg P(x, y) \vee \exists x \exists y \neg Q(x, y)$

c) $\forall x \forall y (\neg Q(x, y) \leftrightarrow Q(y, x))$

d) $\exists y \forall x \forall z, (\neg T(x, y, z) \wedge \neg Q(x, y))$

46.

a) F

b) T

c) T