

**COMP3005 A3**

Drew Suitor - 101003158

**Part 1**

**1.1**

$\pi$  NAME  $\pi$  AREACODE  $\pi$  OFFICECODE  $\pi$  STATIONCODE ( $\sigma$  (R1.portid = R2.portid)(SUBSCRIBERS x LINES))

**1.2**

$\pi$  NAME  $\pi$  ADDRESS  $\pi$  PORTID ( $\sigma$  (R1.portid = R2.line AND SERVICE = 'CFB')(SUBSCRIBERS x SERVICE\_SUBSCRIBERS))

**1.3**

$\pi$  PORTID ( $\sigma$  (R1.portid = R2.portid AND count[R2.state:C]('IDLE') = 0)(TRUNKS x TRUNK\_CHANNEL))

**1.4**

$\pi$  CALL\_ID ( $\sigma$  (R1.orig = R2.portid AND R1.term = R3.portid)(CALLS x TRUNKS x TRUNKS))

**1.5**

$\pi$  PORTID ( $\sigma$  (R1.portid = R2.orig AND R1.portid = R3.portid AND R3.tcode = 'BSY')(LINES x CALLS x TREATMENTS))

**1.6**

$\pi$  PORTID ( $\sigma$  (R1.portid = R2.portid AND count[R2.state:C]('IDLE') > 0)(TRUNKS x TRUNK\_CHANNEL))

**1.7**

$\pi$  NAME  $\pi$  ADDRESS ( $\sigma$  (max(count(R1.portid = R2.portid)))(SUBSCRIBERS x SERVICE\_SUBSCRIBERS))

**1.8**

$\pi$  PORTID ( $\sigma$  (R1.portid = R2.portid AND count[R2.state:C]('IDLE') > 0)(TRUNKS x TRUNK\_CHANNEL))

**1.9**

$\pi$  SERVICE  $\pi$  COUNT[R1.scode = R2.service :C](SERVICES x SERVICE\_SUBSCRIBERS)

**1.10**