

## CS 201: DISCRETE STRUCTURES

### SECTION G

September 18, 2018.

#### Quiz 2

Translate the following English sentences into propositional logic using the following propositions:

$P(x)$ :  $x$  is a Pakistani

$O(x)$ :  $x$  is an office

$W(x,y)$ :  $x$  works at  $y$

Operators you are allowed to use:  $\{\wedge, \vee, \neg, \rightarrow, \leftrightarrow\}$ . Quantifiers you are allowed to use are:  $\{\forall, \exists\}$

#### PROBLEM 1

All Pakistanis work in some office.

#### PROBLEM 2

Osama does not work in any office.

#### PROBLEM 3

There is an office in which no Pakistani works.