COMP21111 Assignment 6
20 marks

Show your working.

Deadline: 19th Nov., time: 12:00, SSO
Deadlines are strict

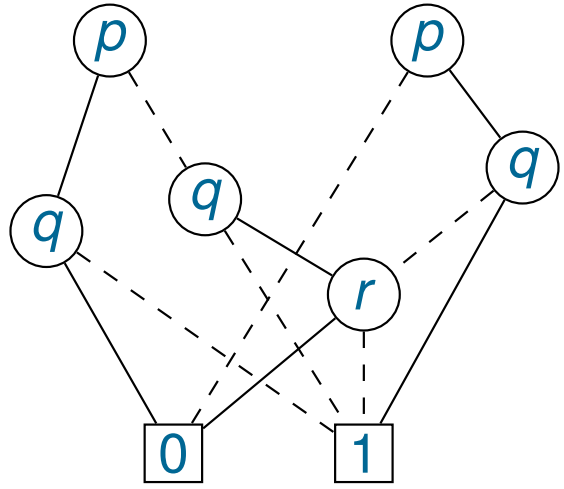
Problem 1 (7 marks)

Draw OBDD for the following formula, assuming the ordering $p > q > r$.

$$(\neg(q \wedge r) \rightarrow p) \wedge (r \vee \neg p)$$

Problem 2 (10 marks)

Consider the following global dag D.



It has two different subdags d_1, d_2 rooted at p. Let d_1, d_2 represent formulas F_1, F_2, respectively.
Draw OBDD with nodes representeding the following formulas:

1. $F_1 \vee F_2$
2. $F_1 \wedge F_2$

Are formulas in 1) and 2) equivalent?

Problem 3 (3 marks)

Complete the algorithm for computing negation of a node n in an OBDD dag D.

procedure *negation*(n)
parameters: global dag D
input: a node n representing F in D
output: a node representing $\neg F$ in (modified) D
begin

end