Exercise 8

1 – How to use Apply to negate

We can use the Boolean operator **implies** to create the effect of negate, to negate the tree u

`Apply(Implies,u,0)`

That is $u \rightarrow 0$

In this case it is equivalent to negate as shown in the truth table below

u	$U \rightarrow 0$	$\neg u$
0	1	1
1	0	0

2 Use mk to construct ROBDD for a variable xi

`Mk[T,H](i,l,h)`

`We can use mk as following:`

`Mk[T,H](i,0,1)`

3 pseudo code of algorithm

```
Expr2ROBDD(Expr e) : ROBDD{
    switch(e.type())
    case TRUE  : return 1
    case FALSE : return 0
    case NOT   : return Apply(IMPLIES,t,Expr2ROBDD(e.right()))
    case AND   : return Apply(AND,Expr2ROBDD(e.left()),Expr2ROBDD(e.right()))
    case OR    : return Apply(OR,Expr2ROBDD(e.left()),Expr2ROBDD(e.right()))
    case VAR   : return Mk(e.idx(),0,1)
}
```