

– For each logic formula given in the data file, tell its ‘type’ (Tautology, unsatisfiable, or satisfiable).

```
and(x,or(y,z)):Satisfiable
or(and(P,Q),Q):Satisfiable
imp(and(P,Q),or(P,Q)):Tautology
imp(and(not(P),Q),or(P,and(Q,P))):Satisfiable
imp(P,Q):Satisfiable
imp(P,P):Tautology
imp(and(imp(P,Q),P),Q):Tautology
and(A,and(B,C)):Satisfiable
and(not(or(A,and(B,C))),D):Satisfiable
and(input1,or(input2,input3)):Satisfiable
```

– For the truth table in slide 26, write its logic formula and the truth table generated by your program.

```
> x y z or(or(not(x),not(y)),z)
> 0 0 0 1
> 0 0 1 1
> 0 1 0 1
> 0 1 1 1
> 1 0 0 1
> 1 0 1 1
> 1 1 0 0
> 1 1 1 1
```

Explanation of modified points (required)

TODO: 1.

```
return !x;
```

論理記号notの実装

TODO: 2.

```
if((x && y) == true){
```

```
    return true;
```

```
}else{
```

```
    return false;
```

```
}
```

論理記号andの実装

TODO: 3.

```
if((x || y) == true){
```

```
    return true;
```

```
}else{
```

```
    return false;
```

```
}
```

論理記号orの実装

TODO: 4.

```
if(!(x || y) == true){
```

```
    return true;
```

```
}else{  
    return false;  
}  
論理記号implicationの実装
```

Discussion (if needed)

Comments (if needed)