Week 9

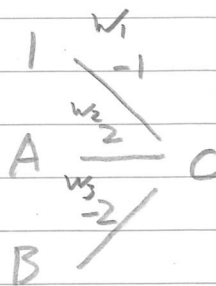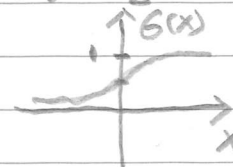## Q1.1 $A \wedge \neg B$

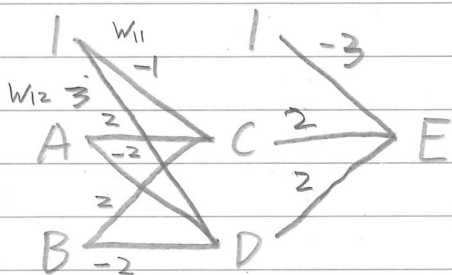| A	B	
0	0	0
0	1	0
1	0	1
1	1	0

$\sigma(X) = \dfrac{1}{1+e^{-x}}$

A	B	C	$\sigma(C) \approx$
0	0	-1	0
0	1	-3	0
1	0	1	1
1	1	-1	0

$\sigma(0) = \dfrac{1}{2} = 0.5$

Q2.2 $A \oplus B$ XOR

bias₁	W_{11}	-1
	W_{12}	3
A	W_{13}	2
	14	-2
B	W_{15}	2
	W_{16}	-2

bias₂	$W_{21} = -3$
C	$W_{22} = 2$
D	$W_{23} = 2$

A	B	C	$\sigma(C)$	D	$\sigma(D)$	E	$\sigma(E)$
0	0	-1	0	3	1	-3	0
0	1	1	1	1	1	1	1
1	0	1	1	1	1	1	1
1	1	2	1	-1	0	-1	0