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| [Company name] |
| Intelligent Systems |
| [Document subtitle] |

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# Part 1

## Forward Pass



= 0.1 \* 0.1 + 0.1 \* 0.1 + 0.1 \* 1

= 0.12



= 1/ 1 + e^(-0.12)

=1 / 1.8869

=0.5299



= 0.2 \* 0.1 + 0.1 \* 0.1 + 0.1 \* 1

= 0.13



= 1/ 1 + e^(-0.13)

=1 / 1.8780

=0.5324



= 0.1 \* 0.5299 + 0.1 \* 0.5324 + 0.1 \* 1

= 0.2062



= 1/ 1 + e^(-0.2062)

=1 / 1.8136

=0.5513



= 0.1 \* 0.5299 + 0.2 \* 0.5324 + 0.1 \* 1

= 0.2594



= 1/ 1 + e^(-0.2594)

=1 / 1.7715

=0.5645

Then we do the same for X2

## Calculating the error

Squared error function



= 0.5 \* (1 – 0.5513)^2

=0.1006



= 0.5 \* (0 – 0.5645)^2

= 0.1593



= 0.1006 + 0.1593

=0.2599

Repeat for X2

## Backward Propagation

### W5

### W6 needs numbers calculated

above might need to be reworked

### W7

### W8:

above might need to be reworked

### W11

### W12

### W1

Enter the learn rate and stuff here

### W3

Therefore E02/outh1 = abc \* w6

+ both answers together = Etot/outh1













\frac{\partial E\_{tot}}{\partial w\_{1}} = \frac{\partial E\_{tot}}{\partial out\_{h1}} \* \frac{\partial out\_{h1}}{\partial net\_{h1}} \* \frac{\partial net\_{h1}}{\partial w\_{1}}

W2 and w4





This needs to be out h2

Net/out =

