Activity 10

Group members

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| **Surname & Initial** | **Student no** |
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Prior probability :

P(yes)=number of yes / total instances

= 5/10

=0.5

P(no)=number of yes / total instances

= 5/10

=0.5

Likelihood probability :

2.1

P(colour=red | apple=yes)=number of colour=red and apple=yes / number of apple=yes

= 5/5

=1

P(size=small | apple=yes)=number of size=small and apple=yes / number of apple=yes

= 3/5

=0.6

P(texture=rough | apple=yes)=number of texture=rough and apple=yes / number of apple=yes

= 2/5

=0.4

P(weight=light | apple=yes)=number of weight=light and apple=yes / number of apple=yes

= 2/5

=0.4

2.2 For no:

P(colour=red | apple=no)=number of colour=red and apple=no / number of apple=no

= 0/5

=0

P(size=small | apple=no)=number of size=small and apple=no / number of apple=no

= 2/5

=0.4

P(texture=rough | apple=no)=number of texture=rough and apple=no / number of apple=no

= 3/5

=0.6

P(weight=light | apple=no)=number of weight=light and apple=no / number of apple=no

= 3/5

=0.6

Poster probability:

3.1 1\*0.6\*0.4\*0.4\*0.5

=0.048

3.2 0\*0.4\*0.6\*0.6\*0.5

=0

Step4

Normalise :

4.1 P(apple=yes, colour=red, size=small, texture=rough, weight=light) = 0.048/0.048+0

=1

4.2 P(apple=no, colour=red, size=small, texture=rough, weight=light) = 0/0.048+0

=0

Step5

1+0=1

Answer Colour: Red Size: Small Texture: Rough Weight: Light is an apple