

2 An artist creates an image on a computer.

(a) State what is meant by the colour depth of an image.

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..... [1]

(b) Describe the relationship between the resolution of the image and the file size of the image.

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.....  
..... [2]

(c) The artist compresses the image file before uploading it to their website. Users can download the image file from the website to print as a poster.

The image file is compressed using lossless compression.

(i) Explain the reasons why the artist chose lossless compression instead of lossy compression to compress this image file.

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.....  
..... [3]

(ii) Identify **one** lossless method of compressing an image.

Describe your chosen method.

Method .....

Description .....

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.....  
..... [3]

(d) The artist emails the image file to their friends.

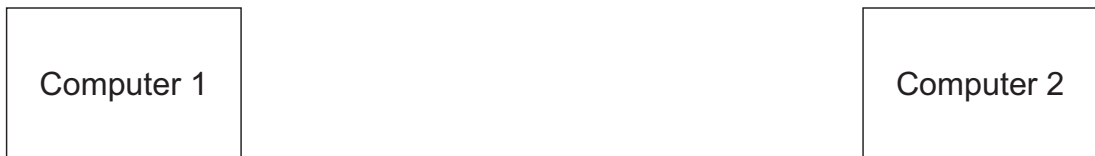
(i) Explain how a file is broken down into packets and transmitted over a network.

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..... [5]

(ii) The packets can use many different methods of data transmission to travel.

Complete and annotate the diagram to show the difference between serial full-duplex transmission between two computers and parallel simplex transmission between two computers.

Serial full-duplex transmission:



Parallel simplex transmission:



[3]