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Sheet #10

Problem 10.2

a) ~~No of blocks we have~~

→ Each block has 32 bits.

→ Total no of index possible from one block is 2^{32} .

→ ~~For Each block~~

Total space taken by block is 128

So therefore,

$$2^{32} \times 128$$

=

= 512 GB is file system size.

b) Almost 64 bytes of data are used for the meta data so that means of the 32 memory address, 16 are used and we have 16 left.

Having one indirect, one double direct and one triple direct leaves us with 13 left for direct.

So therefore,

$$\begin{array}{ccccccc} (13 \times 128) & + & (32 \times 128) & + & (32^2 \times 128) & + & (32^3 \times 128) \\ \uparrow & & + \cancel{+} & & \downarrow & & \downarrow \\ \text{Direct} & & \text{Indirect} & & \text{Double} & & \text{Triple} \end{array}$$

$$= \frac{4330136}{1024 \times 1024}$$

$$= 4.13 \text{ MB.}$$