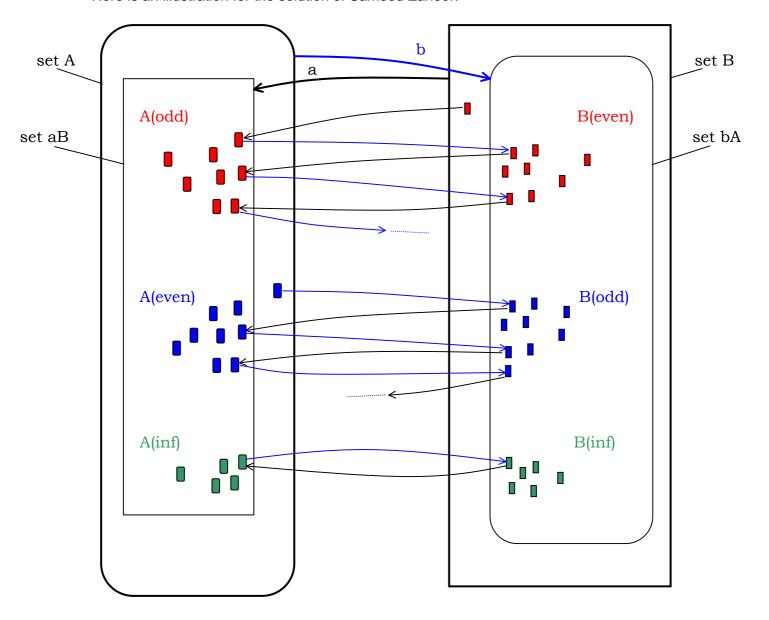**Exercise [16.10]**

Here is an illustration for the solution of Sameed Zahoor:

Explanation:

- A(even) comprises the elements of A that are reached after an even number of iterated mappings *bababa*…, starting from an element of A that is NOT the image of any y∈B under *b*.

- A(odd) comprises the elements of A that are reached after an odd number of iterated mappings *ababa*…, starting from an element of B that is NOT the image of any y∈A under *a*.

- A(inf) comprises the elements of A for which the sequence of inverse mappings $(b^{-1})(a^{-1})(b^{-1})(a^{-1})(b^{-1})(a^{-1})$…. can infinitely be extended (the picture shows the particular case in which mapping *a* is the inverse of *b* and vice versa).

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The desired global 1-to-1 mapping f is then, in the above picture:

A(odd)

f = a⁻¹

B(even)

A(even)

f = b

B(odd)

A(inf)

f = b

B(inf)

A

B

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