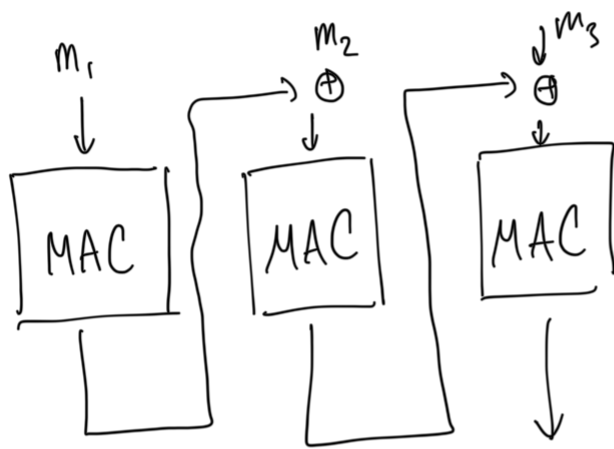
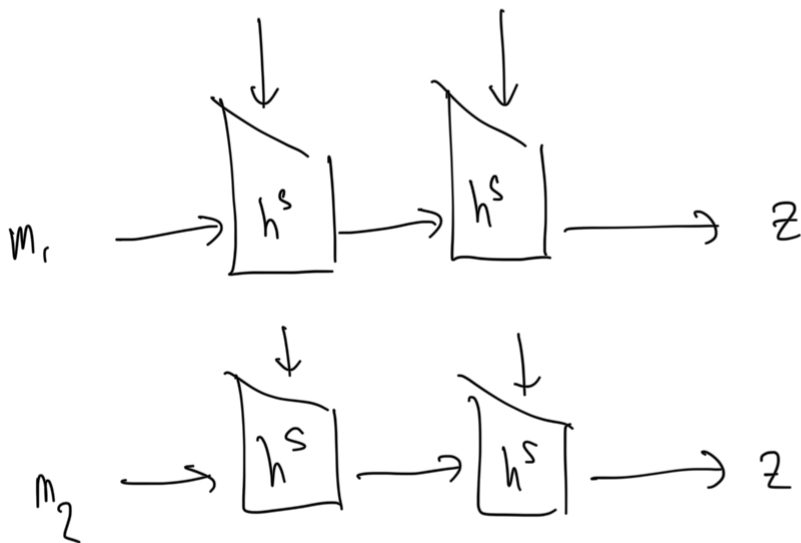


128+5  
binary  
string for  
133

~~Secure~~  
modification  
of CBC-MAC



Consider a MAC  
that leaks inf.  
about its input



Are there collisions on  
 $h^s$  that wouldn't  
help you find  
collisions on  
MD.

---

"helpful collisions"  
are collisions for which  
the input to the collision is  
in the image of  $h^s$ .

Can you construct  $h^S$  that  
has collisions, but no helpful  
collisions.