

Question 1.

The size of the hash codes was the only noticeable difference, MD5 was 128 bits (32 hex), SHA1 was 160 bits (40 hex) and SHA256 was 256 bits (64 hex)

Question 2.

MD5 = 665bbfec08fe3d23358298657d477db5

SHA1 = 4091127425206d1d3203e1302bac99095654c900

SHA256 = 0cc39a1f2681541decd34c6472000a309cd5f06cf2ba7b814799eec8fde9d269

Question 3.

While testing different keys with different lengths, the hash was generated successfully without any problems. So, a key with a fixed size is not needed and that is because

Question 4.

HMAC-MD5 = 48c92d8209023ffb970776ae1b8f42ac

HMAC-SHA1 = d5a315387e53df307ad77b74544093309bf93a5e

HMAC-SHA256 = 6752decfaf2485d5e716f4e6bfb7a32e3e031ecbf3251ab0e1286708e4e2d185

Question 5.

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Question 6.

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