```
public String calculateSignature(...) {
 String baseUrl = baseUrl(uri);
 String encodedParams = encodedParams(oauthTimestamp,...,queryParams);
 StringBuilder sb = StringUtils.stringBuilder();
 sb.append (method);
sb.append('&');
 Utf8UrlEncoder.encodeAndAppendQueryElement(sb, baseUrl);
 sb.append('&');
 Utf8UrlEncoder.encodeAndAppendQueryElement(sb, encodedParams);
ByteBuffer rawBase = StringUtils.charSequence2ByteBuffer(sb, UTF 8);
byte[] rawSignature = mac.digest(rawBase);
 return Base64.encode(rawSignature);
```