**package** com;

**import** java.io.UnsupportedEncodingException;

**import** java.security.MessageDigest;

**import** java.security.NoSuchAlgorithmException;

**import** java.util.Formatter;

**public** **class** test

{

**public** **static** **void** main(String[] args) **throws** NoSuchAlgorithmException, UnsupportedEncodingException

{

String string1 = "jsapi\_ticket=123456&noncestr=234567&timestamp=345678&url=http://www.baidu.com/";

MessageDigest crypt = MessageDigest.*getInstance*("MD5");//或者SHA-1

crypt.reset();

crypt.update(string1.getBytes("UTF-8"));

System.*out*.println(*byteToHex*(crypt.digest()));

System.*out*.println(*getSha1*(string1));

}

**public** **static** String getSha1(String str){

**if**(str==**null**||str.length()==0){

**return** **null**;

}

**char** hexDigits[] = {'0','1','2','3','4','5','6','7','8','9',

'a','b','c','d','e','f'};

**try** {

MessageDigest mdTemp = MessageDigest.*getInstance*("SHA1");

mdTemp.update(str.getBytes("UTF-8"));

**byte**[] md = mdTemp.digest();

**int** j = md.length;

**char** buf[] = **new** **char**[j\*2];

**int** k = 0;

**for** (**int** i = 0; i < j; i++) {

**byte** byte0 = md[i];

//右移位运算符>>，若操作的值为正，则在高位插入0；若值为负，则在高位插入1。

//右移补零操作符>>>，无论正负，都在高位插入0。

//低4位和高4位分别用一个16进制数存储

buf[k++] = hexDigits[byte0 >>> 4 & 0xf];//一个byte1个字节，占8位，向右移4位，位移处补0。和0xf(000..001111,28个0)按位求与。得到16进制数

buf[k++] = hexDigits[byte0 & 0xf];

}

**return** **new** String(buf);

} **catch** (Exception e) {

**return** **null**;

}

}

**private** **static** String byteToHex(**final** **byte**[] hash)

{

Formatter formatter = **new** Formatter();

**for** (**byte** b : hash)

{

formatter.format("%02x", b);

}

String result = formatter.toString();

formatter.close();

**return** result;

}

}