

```
1 // Java program to calculate SHA-512 hash value
2
3 import java.math.BigInteger;
4 import java.security.MessageDigest;
5 import java.security.NoSuchAlgorithmException;
6 import java.util.*;
7
8 public class SHA512 {
9
10     public static void main(String args[]) throws NoSuchAlgorithmException
11     {
12
13         Scanner sc=new Scanner(System.in);
14
15         System.out.println("Enter input String(Plain text Message): ");
16
17         String str = sc.next();
18         String hashCode;
19         MessageDigest md;
20
21         try {
22             // getInstance() method is called with algorithm SHA-512
23             md = MessageDigest.getInstance("SHA-512");
24
25             // digest() method is called
26             // to calculate message digest of the input string str
27             // returned as array of byte
28             byte[] messageDigest = md.digest(str.getBytes());
29
30             // Convert byte array into signum representation
31             BigInteger no = new BigInteger(1, messageDigest);
32
33             // Convert message digest into hex value
34             hashCode = no.toString(16);
35
36             // Add preceding 0s to make it 32 bit
37             while (hashCode.length() < 32) {
38                 hashCode = "0" + hashCode;
39             }
40         }
41
42         // For specifying wrong message digest algorithms
43         catch (NoSuchAlgorithmException e) {
44             throw new RuntimeException(e);
45         }
46
47         System.out.println("HashCode Generated by SHA-512 for: ");
48         System.out.println("\n" + str + " is : " + hashCode);
49
50         System.out.println("Message digest object info: ");
```

```
51 System.out.println(" Algorithm = " +md.getAlgori thm());
52 System.out.println(" Provi der = " +md.getProvi der());
53 System.out.println(" ToString = " +md.toStri ng());
54     }
55 }
56
```