



```

    }
}
return temp.toString();
}
}

```

- Main.java

```

import org.apache.commons.codec.binary.Base64;
import java.io.UnsupportedEncodingException;
import java.security.NoSuchAlgorithmException;

public class Main {
    public static void main(String[] args) throws UnsupportedEncodingException,
    NoSuchAlgorithmException {
        SHAAlgorithm shaAlgorithm = new SHAAlgorithm();

        // Gil3I9x4jj4yTJ5Dh1p8,mhsrM39uiGcbPPyyz930,sLrGGze569971g35dtZi
        for(int i=0;i<100000;i++){ // 10만번 수행
            String r = shaAlgorithm.randomStringGenerator(); // 랜덤 문자열 생성
            byte[] s = shaAlgorithm.sha256ToByte(r); // SHA256 해시화
            if(s[0]==0 && s[1]==0){ // 2바이트 값이 모두 0 이라면, 즉 16비트가 0일
                System.out.println(r); // 본래 문자열 출력
                System.out.println(byteArrayToHexString(s)); // 해시값의 hex값 출력
            }
        }

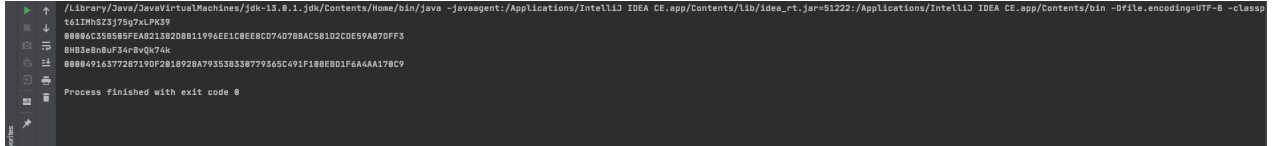
        // hex to Byte[]
        public static byte[] hexStringToByteArray(String hex) {
            if (hex == null || hex.length() == 0) { return null; }
            byte[] ba = new byte[hex.length() / 2];
            for (int i = 0; i < ba.length; i++) {
                ba[i] = (byte) Integer.parseInt(hex.substring(2 * i, 2 * i + 2),
                16);
            }
            return ba;
        }

        // byte[] to hex
        public static String byteArrayToHexString(byte[] bytes){
            StringBuilder sb = new StringBuilder();
            for(byte b : bytes){
                sb.append(String.format("%02X", b&0xff));
            }
        }
    }
}

```

```
        return sb.toString();  
    }  
}
```

## 실행 결과



```
/Library/Java/JavaVirtualMachines/jdk-13.0.1.jdk/Contents/Home/bin/java -javaagent:/Applications/IntelliJ IDEA CE.app/Contents/lib/idea_rt.jar-51222:/Applications/IntelliJ IDEA CE.app/Contents/bin -Dfile.encoding=UTF-8 -classpath  
t61IhM6Z3j75g7xLpK39  
888886c358585fEAB21382D8811996EE108EEBC0740788AC58102C0E59A87DFF3  
8H83e8n8uF34rBvQk74k  
8888491637728719DF281B928A79353B338779365C491F188EBD1F64AA178C9  
Process finished with exit code 0
```