

```
import java.util.Random;
```

```
public class generator {
```

```
    public static void main(String[] args) {
```

```
        System.out.println("Password 1: " + generate_password(8, true, true, true, true));
```

```
        System.out.println("Password 2: " + generate_password(14, true, false, true, false));
```

```
        System.out.println("Password 3: " + generate_password(20, false, true, false, true));
```

```
    }
```

```
    static String generate_password(int size, boolean upper, boolean lower, boolean number, boolean special) {
```

```
        String upper_chars = "ABCDEFGHIJKLMNOPQRSTUVWXYZ";
```

```
        String lower_chars = "abcdefghijklmnopqrstuvwxyz";
```

```
        String number_chars = "1234567890";
```

```
        String special_chars = "!@#$%^&*()_+~/.,<>?:'\[\]\{\}\|`~";
```

```
        String chars = "";
```

```
        if (upper) {
```

```
            chars += upper_chars;
```

```
        }
```

```
        if (lower) {
```

```
            chars += lower_chars;
```

```
        }
```

```
        if (number) {
```

```
            chars += number_chars;
```

```
        }
```

```
        if (special) {
```

```
            chars += special_chars;
```

```
        }
```

```

String password = "";
// include at least one of each type

int count = 0;
if (upper) {
    password += upper_chars.charAt((int) (Math.random() * upper_chars.length()));
    count++;
}
if (lower) {
    password += lower_chars.charAt((int) (Math.random() * lower_chars.length()));
    count++;
}
if (number) {
    password += number_chars.charAt((int) (Math.random() * number_chars.length()));
    count++;
}
if(special){
    password += special_chars.charAt((int) (Math.random() * special_chars.length()));
    count++;
}

Random rnd = new Random();
while (password.length() < size-count) {
    int index = (int) (rnd.nextFloat() * chars.length());
    password += chars.charAt(index);
}

// shuffle the password
String shuffled = "";
while (password.length() > 0) {
    int index = (int) (rnd.nextFloat() * password.length());
    shuffled += password.charAt(index);
}

```

```
        password = password.substring(0, index) + password.substring(index + 1);  
    }  
    return shuffled;  
}  
}
```