Problem 6:

**package** doselect\_prob\_6;

**public** **class** Credentials {

String userName;

String password;

**public** Credentials(String userName,String password)

{

**this**.userName = userName;

**this**.password=password;

}

}

**package** doselect\_prob\_6;

**public** **class** LengthMismatchException **extends** Exception{

**public** LengthMismatchException(String str) {

**super**(str);

}

}

**package** doselect\_prob\_6;

**public** **class** MissingCharacterException **extends** Exception{

**public** MissingCharacterException(String str) {

**super**(str);

}

}

**package** doselect\_prob\_6;

**import** java.util.regex.Matcher;

**import** java.util.regex.Pattern;

**public** **class** Implementation {

**public** String passwordValidator(Credentials details) **throws** MissingCharacterException,LengthMismatchException{

String passcheck ="^(?=.\*[0-9])"

+ "(?=.\*[a-z])(?=.\*[A-Z])"

+ "(?=.\*[@#$%^&+=])"

+ "(?=\\S+$).{8,20}$";

Pattern p = Pattern.*compile*(passcheck);

Matcher m = p.matcher(details.password);

**boolean** n = m.matches();

**if**(!n) {

**throw** **new** MissingCharacterException("password must contain at least one special character, at least one upper case alphabet, at least one lower case alphabet, and at least one digit ");

}

**else** **if**( details.password.length() < 8 || details.password.length() >40)

{

**throw** **new** LengthMismatchException("length of the password is not between 8 to 40");

}

**else**

**return** "valid password";

}

**public** String signUp(Credentials details) **throws** Exception{

**try** {

passwordValidator(details);

}

**catch**(MissingCharacterException e1)

{

**return** "invalid password" ;

}

**catch**(LengthMismatchException e2)

{

**return** "invalid password" ;

}

**catch**(Exception e3)

{

**return** "other exception" ;

}

**return** "signup successfully";

}

}

**package** doselect\_prob\_6;

**public** **class** main {

**public** **static** **void** main(String[] args) **throws** Exception {

// **TODO** Auto-generated method stub

Implementation obj = **new** Implementation();

String out= obj.passwordValidator(**new** Credentials("Steve", "Akjsdhhj@1"));

String out1=obj.signUp(**new** Credentials("Bob", "jsdhJS12\*&$1"));

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

System.***out***.println(out1);

}

}