**1]** **Take compile pattern AB (your expression) input is ABABCABCCABCBC. Write a program to check whether the pattern is present in input string and how many times it is present.**

import java.util.regex.Matcher;

import java.util.regex.Pattern;

public class pattern{

public static void main(String[] args){

String pattern="AB";

String input="ABABCABCCABCBC";

Pattern p=Pattern.compile(pattern);

Matcher m=p.matcher(input);

int count=0;

while (m.find()){

count++;

}

System.out.println("The pattern '"+pattern+"' occurs "+count+" times");

}

}

Output:

The pattern 'AB' occurs 4 times

=== Code Execution Successful ===

**2]** **Regular expression patterns match**

import java.util.regex.Matcher;

import java.util.regex.Pattern;

public class pattern{

public void count(String pattern){

String input="ABABCABCCABCBC";

Pattern p=Pattern.compile(pattern);

Matcher m=p.matcher(input);

int count=0;

while (m.find()){

count++;

}

System.out.println("The pattern '"+pattern+"' occurs "+count+" times");

}

public static void main(String[] args){

pattern p=new pattern();

p.count("AB");

p.count("[^AB]");

p.count("[a-z]");

p.count("[A-Z]");

p.count("a-zA-Z");

p.count("[0-9]");

p.count("[a-zA-Z0-9]");

p.count("[^a-zA-Z0-9]");

}

}

Output:

The pattern 'AB' occurs 4 times

The pattern '[^AB]' occurs 5 times

The pattern '[a-z]' occurs 0 times

The pattern '[A-Z]' occurs 14 times

The pattern 'a-zA-Z' occurs 0 times

The pattern '[0-9]' occurs 0 times

The pattern '[a-zA-Z0-9]' occurs 14 times

The pattern '[^a-zA-Z0-9]' occurs 0 times

=== Code Execution Successful ===

**3]** **split the given string using slash, space and dot.**

public class StringSplitter{

public static void main(String[] args){

String input="hello/world.this is a test.string";

String[] splitStrings=input.split("[/. ]");

System.out.println("Split strings:");

for (String s:splitStrings){

System.out.println(s);

}

}

}

Output:

Split strings:

hello

world

this

is

a

test

string

=== Code Execution Successful ===

**4]** **Quantifiers**

import java.util.regex.Matcher;

import java.util.regex.Pattern;

public class pattern{

public void count(String pattern){

String input="ABABCABCCABCBC";

Pattern p=Pattern.compile(pattern);

Matcher m=p.matcher(input);

int count=0;

while (m.find()){

count++;

}

System.out.println("The pattern '"+pattern+"' occurs "+count+" times");

}

public static void main(String[] args){

pattern p=new pattern();

p.count("[A+]");

p.count("[A\*]");

p.count("[A?]");

p.count("[AB{1,3}]");

p.count("[AB{1}]");

}

}

Output:

The pattern '[A+]' occurs 4 times

The pattern '[A\*]' occurs 4 times

The pattern '[A?]' occurs 4 times

The pattern '[AB{1,3}]' occurs 9 times

The pattern '[AB{1}]' occurs 9 times

=== Code Execution Successful ===

**5]** **Regular Expressions**

import java.util.regex.Matcher;

import java.util.regex.Pattern;

public class pattern{

public void count(String pattern){

String input="ABABCABC CABCBC000";

Pattern p=Pattern.compile(pattern);

Matcher m=p.matcher(input);

int count=0;

while (m.find()){

count++;

}

System.out.println("The pattern '"+pattern+"' occurs "+count+" times");

}

public static void main(String[] args){

pattern p=new pattern();

p.count("\\bAB"); //start with

p.count("AB\\b"); //end with

p.count("\\d");

p.count("\\s");

p.count("\\w");

}

}

Output:

The pattern '\bAB' occurs 1 times

The pattern 'AB\b' occurs 0 times

The pattern '\d' occurs 3 times

The pattern '\s' occurs 1 times

The pattern '\w' occurs 17 times

=== Code Execution Successful ===