07-08-2024

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()){

```java
            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.

```java
public class StringSplitter{

    public static void main(String[] args){

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

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

```java
        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

```java
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){
```

```java
        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

```java
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();
```

```java
            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 ===