

2. We are given 3 strings: str1, str2, and str3. Str3 is said to be a shuffle of str1 and str2 if it can be formed by interleaving the characters of str1 and str2 in a way that maintains the left to right ordering of the characters from each string. For example, given str1="abc" and str2="def", str3="dabecf" is a valid shuffle since it preserves the character ordering of the two strings. So, given these 3 strings write a function that detects whether str3 is a valid shuffle of str1 and str2.

```
public class Main{

    static boolean isInterleaved (String A, String B, String C)

    {

        int i = 0, j = 0, k = 0;

        while (k != C.length())

        {

            if (i<A.length() && A.charAt(i) == C.charAt(k))

                i++;

            else if (j<B.length() && B.charAt(j) == C.charAt(k))

                j++;

            else

                return false;

            k++;

        }

        if (i < A.length() || j < B.length())

            return false;

        return true;

    }

    public static void main(String []args){

        String A = "abc";

        String B = "def";
```

```
String C = "dabecf";
```

```
if (isInterleaved(A, B, C) == true)
```

```
    System.out.printf("%s is interleaved of %s and %s", C, A, B);
```

```
else
```

```
    System.out.printf("%s is not interleaved of %s and %s", C, A, B);
```

```
}
```

```
}
```

## Output:

