

Worksheet: String Class Swap Halves

1. Complete the Java class so that the program produces the expected output (shown at the bottom of the page).

```
public class SwapHalves {  
  
    public static void main(String[] args) {  
        System.out.println( swapHalves("12345678") );  
        System.out.println( swapHalves("Glamorous") );  
    }  
  
    public static String swapHalves(String s) {  
        int middle = s.length() / 2;  
        String firstHalf = s.substring(0, middle);  
        String lastHalf = s.substring( middle );  
        return lastHalf + firstHalf;  
    }  
}
```

Expected Output:

```
56781234  
orousGlam
```

2. On the reverse of this paper, write a class named `Movie`. In the class, write a Java method that calculates the price of a movie ticket based on the following requirements:
- The purpose of this method is to return the ticket price in USD.
 - This method has 2 integer parameters: `age`, the viewer's age in years, and `time` for the time of the show in 24-hour format (e.g., 1400 for 2:00 PM).
 - The adult ticket price is \$8
 - The viewer is a senior (age 65 or older) or a child (age 12 or younger), the ticket price is \$6.
 - For evening shows (starting at 5:00 PM or later, represented as 1700 or higher), add a \$2 surcharge to the price, regardless of age.
 - If the time is invalid (less than 0 or greater than 2399), return -1.

Precondition: the age and time will always be valid values.

Text code and output:

```
System.out.println(calculateTicketPrice(25, 1400)); // 8.0 (adult, matinee)  
System.out.println(calculateTicketPrice(25, 1900)); // 10.0 (adult, evening)  
System.out.println(calculateTicketPrice(10, 1400)); // 6.0 (child, matinee)  
System.out.println(calculateTicketPrice(70, 1900)); // 8.0 (senior, evening)
```

```
8.0  
10.0  
6.0  
8.0
```

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```
public class Movie {  
    public static double calculateTicketPrice(int age, int showTime) {  
        // Validate inputs  
        if (showTime < 0 || showTime > 2359) {  
            return -1;  
        }  
  
        double basePrice;  
  
        // Determine base price based on age  
        if (age <= 12 || age >= 65) {  
            basePrice = 6.0; // Child or senior discount  
        } else {  
            basePrice = 8.0; // Regular price  
        }  
  
        // Add evening surcharge for shows at 5:00 PM or later  
        if (showTime >= 1700) {  
            basePrice += 2.0;  
        }  
  
        return basePrice;  
    }  
  
    // Main method NOT required for the solution.  
    public static void main(String[] args) {  
        System.out.println(calculateTicketPrice(25, 1400)); // 8.0 (adult, matinee)  
        System.out.println(calculateTicketPrice(25, 1900)); // 10.0 (adult, evening)  
        System.out.println(calculateTicketPrice(10, 1400)); // 6.0 (child, matinee)  
        System.out.println(calculateTicketPrice(70, 1900)); // 8.0 (senior, evening)  
    }  
}
```