

Explanation:

1. Input Validation:

- **BaseHourlyWage**: The base wage per hour.
- **AllowanceHourlyWage**: The allowance per hour (not just for overtime but for all hours worked).
- **WorkedHoursInMonths**: The actual number of hours worked in the last 3 months.
- **WorkdaysPerWeek**: The number of workdays the employee works per week (e.g., 3.5 days).
- **HoursPerDay**: The number of hours the employee works per day (e.g., 6.5 hours).

2. Base and Allowance Calculation:

- The **base wage** is calculated for **100 hours per month** for the **3 months**.
- The **allowance** is calculated for the hours worked each month, but at least **100 hours** are considered for allowance calculation, as per the employment contract.
- For each of the three months, if the employee worked fewer than 100 hours, the employee will still get allowance for 100 hours. If the employee worked more than 100 hours, the actual hours worked are used for allowance calculation.

3. Daily Wage Calculation:

- The total wage (base wage + allowance) is divided by the **workdays in the period** (66 workdays, which is the number of Mondays to Fridays in the 3-month period).
- The daily wage is then adjusted based on the **employee's workweek**:
 - If the employee works fewer than 5 days per week, the daily wage is adjusted accordingly.
 - Example: If the employee works 3.5 days per week (instead of 5), the daily wage is increased by the factor $5/3.5 = 1.42857$.

4. Hourly Wage Calculation:

- The hourly wage is derived by dividing the **daily wage** by the **hours per day**.

Example Calculation:

Input Data:

- **Base Hourly Wage**: 13.80 €
- **Allowance Hourly Wage**: 2.20 €

- **Worked Hours in Months:**
 - 08/2024: 96 hours (calculated as 100 hours for the purpose of allowance)
 - 09/2024: 110 hours (calculated with actual 110 hours)
 - 10/2024: 95 hours (calculated as 100 hours for the purpose of allowance)
- **Workdays Per Week:** 3.5 days (employee works 3.5 days per week)
- **Hours Per Day:** 6.5 hours
- **Workdays in Period (Mon-Fri):** 66 workdays

Calculations:

1. **Base Wage (for 100 hours per month):**
 - $100 \text{ hours} \times 13.80 \text{ €} \times 3 \text{ months} = \mathbf{4,140.00 \text{ €}}$
2. **Allowance (for all worked hours):**
 - 08/2024: $100 \text{ hours} \times 2.20 \text{ €} = \mathbf{220.00 \text{ €}}$
 - 09/2024: $110 \text{ hours} \times 2.20 \text{ €} = \mathbf{242.00 \text{ €}}$
 - 10/2024: $100 \text{ hours} \times 2.20 \text{ €} = \mathbf{220.00 \text{ €}}$
3. **Total Wage:**
 - $\text{Base Wage} + \text{Allowance} = \mathbf{4,140.00 \text{ €} + 220.00 \text{ €} + 242.00 \text{ €} + 220.00 \text{ €} = 4,822.00 \text{ €}}$
4. **Daily Wage (for 66 workdays):**
 - $\text{Total Wage} / 66 \text{ workdays} = \mathbf{4,822.00 \text{ €} / 66 = 73.09 \text{ € per day}}$
5. **Adjustment for 3.5 Workdays per Week:**
 - The daily wage is adjusted by multiplying with $53.5 \frac{5}{3.5} 3.55$ to account for the fewer workdays:
 - $73.09 \text{ €} \times 53.5 = 104.41 \text{ €}$
 $73.09 \text{ €} \times \frac{5}{3.5} = 104.41$
 $73.09 \text{ €} \times 3.55 = 104.41 \text{ €}$
6. **Hourly Wage (from daily wage):**
 - $\text{Daily wage} / \text{Hours per day} = \mathbf{104.41 \text{ €} / 6.5 = 16.04 \text{ € per hour}}$

API Controller Code (ASP.NET Core)

csharp

Code kopieren

```
[ApiController]
```

```
[Route("api/[controller]")]
```

```
public class AbgeltungController : ControllerBase
```

```
{
```

```
    [HttpPost("BerechneTäglicheAbgeltung")]
```

```
    public IActionResult BerechneTäglicheAbgeltung([FromBody]  
    BerechnungsParameter parameter)
```

```
    {
```

```
        // Step 1: Validate input data
```

```
        if (parameter == null || parameter.StundenReferenzMonate == null ||  
        parameter.StundenReferenzMonate.Length != 3)
```

```
        {
```

```
            return BadRequest(new { Message = "Invalid input data." });
```

```
        }
```

```
        // Step 2: Calculate total compensation (Base wage + Allowance)
```

```
        decimal baseHourlyWage = parameter.BaseHourlyWage;
```

```
        decimal allowanceHourlyWage = parameter.AllowanceHourlyWage;
```

```
        // Calculate guaranteed hours for base wage and allowance (always 100 hours  
        per month)
```

```
        decimal totalBaseWage = baseHourlyWage * 100 * 3; // 100 hours per month, 3  
        months
```

```
        decimal totalAllowance = 0;
```

```
        // Calculate allowance for all worked hours
```

```
        for (int i = 0; i < 3; i++)
```

```

{
    decimal workedHours = parameter.WorkedHoursInMonths[i];
    // Always calculate allowance for at least 100 hours per month
    decimal workedHoursWithAllowance = Math.Max(workedHours, 100);
    totalAllowance += workedHoursWithAllowance * allowanceHourlyWage;
}

decimal totalWage = totalBaseWage + totalAllowance;

// Step 3: Calculate the number of workdays (Monday to Friday) in the period
int workdaysInPeriod = 66; // Assuming there are always 66 workdays (Mon-Fri)

// Step 4: Calculate daily wage
decimal dailyWage = totalWage / workdaysInPeriod;

// Step 5: Adjust for employee's workweek
decimal workdaysPerWeekPercentage = parameter.WorkdaysPerWeek / 5m; //
Ratio of workdays to 5-day workweek
dailyWage *= (5m / parameter.WorkdaysPerWeek);

// Step 6: Calculate hours per day
decimal hoursPerDay = parameter.HoursPerDay;

return Ok(new
{
    BaseWage = totalBaseWage,
    Allowance = totalAllowance,
    TotalWage = totalWage,
    DailyWage = dailyWage,
    HourlyWage = dailyWage / hoursPerDay

```

```
    });  
}  
}
```

// Model for calculation parameters

```
public class BerechnungsParameter
```

```
{  
    public decimal BaseHourlyWage { get; set; }  
    public decimal AllowanceHourlyWage { get; set; } // Allowance per hour  
    public decimal[] WorkedHoursInMonths { get; set; } // Worked hours in the last 3  
months  
    public int WorkdaysPerWeek { get; set; }  
    public decimal HoursPerDay { get; set; }  
}
```