**Requirements:**

**There are 4 types qualifications in company (Junior, Middle, Senior, Lead) with different salary and productivity**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Junior | Middle | Senior | Lead |
| Salary | 400 | 750 | 1000 | 1400 |
| Productivity | 1 | 2 | 3 | 4 |

**Program input: amount of money, required productivity and chose criterion**

REQ-1 If input options are not valid output message: Error input. Try input again

REQ-2 Input sum should be more than minimum salary.

REQ-3 Input productivity should be more than 0;

REQ-4 Input criterion should be: MaxProductivity, MinCost, MinHightSkillWorkers

REQ-5 Numbers used in the program are integer.

REQ-6 If input sum is insufficient for given productivity, use all sum to achieve max productivity and output max productivity workers.

**1/criterion: Maximum productivity with fixed sum(max productivity priority)**

REQ-7 if sum is more for input productivity use all sum

**2/criterion: Minimum cost with fixed productivity(min sum priority)**

REQ-8if sum is more for input productivity achieve input productivity

**3/ criterion: Minimum amount of workers with qualification higher than Junior, productivity is fixed(Junior priority)**

REQ-9Junior priority

**Program output: number of required workers of each qualification meet conditions of customer**

Test cases

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Priority | Requirements |  | Expected result |
| A1 | High | REQ-1 | **Enter not valid value of sum**  1.Input negative or letters sum:  -100 | 1.Output message  Error input. Try input sum again:  2.Repeat input of sum |
| A2 | High | REQ-1 | **Enter sum less than minimum salary(400)**  1.Input sum:  300 | 1.Output message: Sum should be more than 400. Try input sum again  2.Repeat input of sum |
| A3 | High | REQ-3 | **Enter not valid value of productivity**  1.Input as productivity negative value, zero or letters:  -1 | 1.Output message:  Error input. Productivity should be more than 0.  Try input productivity again:  2.Repear productivity input |
| A4 | High | REQ-4 | **Enter not valid value of criterion**  1.Input criterion:  Criterion | 1.Output message :  Error input.  Try input criterion again MaxProductivity, MinCost, MinHightSkillWorkers  2.Repeat criterion input |
| B1 | High | REQ-7 | **Enter sum more for given productivity**  1.Input sum:  900  2.Input productivity:  1  3. Input criterion:  MaxProductivity | 1.Output:  Middle 1 |
| B2 | High | REQ-6 | **Enter sum insufficient for given productivity**  1.Jnput sum:  1000  2.Input productivity:  4  3. Input criterion :  MaxProductivity | 1.Output:  This sum is insufficient to input productivity  Max productivity for this sum - 3  Senior 1 |
| С1 | High | REQ-6 | **Enter sum insufficient for given productivity**  1.Input sum:  1000  2.Input productivity:  7  3.Input criterion:  MinCost | 1.Output:  This sum is insufficient to input productivity  Max productivity for this sum - 3  Senior 1 |
| С2 | High | REQ-8 | **Enter sum more for given productivity**  1.Input sum:  1000  2.Input productivity:  1  3.Input criterion:  MinCost | 1.Output:  Junior 1 |
| D1 | High | REQ-9 | **Enter sum more for given productivity**  1.Input sum:  1600  2.Input productivity  4  3. Input criterion: MinHightSkillWorkers | 1.Output:  Junior 4 |
| D2 | High | REQ-6 | **Enter sum insufficient for given productivity**  1.Input sum:  900  2.Input productivity  3  3. Input criterion: MinHightSkillWorkers | 1.Output  Junior 2 |
| D3 | High | REQ-9 | **Checking priority Junior**  1.Input sum:  1000  2.Input productivity  3  3. Input criterion: MinHightSkillWorkers | 1.Output  Junior 1  Middle 1 |