Избавимся от неравенств в ограничениях, введя в ограничения неотрицательные балансовые переменные s1, s2:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | x1 | + | 2 | x2 | + |  | s1 |  |  |  | = |  | 10 |  |  |
|  |  | x1 | + |  | x2 |  |  |  | + |  | s2 | = |  | 8 |  |  |

x1, x2, s1, s2 ≥ 0

Сформируем начальную [симплекс-таблицу](http://www.math-pr.com/simpl_tbl.php).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| БП | x1 | x2 | s1 | s2 | Решение | Отношение |
| s1 | 1 | 2 | 1 | 0 | 10 | |  |  |  |  |  | | --- | --- | --- | --- | --- | | 10 | / | 2 | = | 5 | |
| s2 | 1 | 1 | 0 | 1 | 8 | |  |  |  |  |  | | --- | --- | --- | --- | --- | | 8 | / | 1 | = | 8 | |
| L | 20 | 50 | 0 | 0 | 0 | -- |

Итерация

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| БП | | x1 | x2 | s1 | s2 | Решение | Отношение | | |
| x2 | | |  | | --- | | 1 | |  | | 2 | | 1 | |  | | --- | | 1 | |  | | 2 | | 0 | 5 | -- | | |
| s2 | | |  | | --- | | 1 | |  | | 2 | | 0 | |  | | --- | | -1 | |  | | 2 | | 1 | 3 | -- | | |
| L | | -5 | 0 | -25 | 0 | -250 | -- | | |
| Достигнуто оптимальное решение, т.к. в строке целевой функции нет положительных коэффициентов.  **Ответ:** Оптимальное значение функции L(x)=250 | | | | | | |  |

достигается в точке с координатами:

|  |  |
| --- | --- |
| x1= | 0 |
| x2= | 5 |
| s1= | 0 |
| s2= | 3 |