

例 3.15 外点罚函数方法 (EPSUTM)

修改参数: f: 目标函数

g: 约束条件

"""

```
from sympy import *
```

```
def EPSUTM():
```

```
    # 设置变量
```

```
    x = symbols("x")
```

```
    Mk = symbols("Mk")
```

```
    # 构造增广函数
```

```
    T = f + Mk * g ** 2
```

```
    # 解析求解
```

```
    difyL_x_1 = diff(f, x)
```

```
    difyL_x_2 = diff(T, x)
```

```
    result1 = solve(difyL_x_1, x)
```

```
    result2 = solve(difyL_x_2, x)
```

```
    result = limit(result2[0], Mk, oo)
```

```
    print("原问题的最优解为: ", result)
```

```
if __name__ == '__main__':
```

```
    x = symbols("x")
```

```
    f = (x - 1) ** 2
```

```
    g = x - 2
```

```
    EPSUTM()
```