例 5.3 Python 程序代码

```
def TwoDimensionalLogisticRegressionDetail(UserID, ProjID, QuesID, xVariableID, yVariableID, CasesCondition):
    two_obj = TwoDimensionalLogisticModel()
    sql_data, xVarName, yVarName = two_obj.showdatas(UserID, ProjID, QuesID, xVariableID, yVariableID, CasesCondition)

    two_obj.close()

    df_dropna = DataFrame(sql_data).dropna()
    df_X = DataFrame()
    df_Y = DataFrame()  # 因变量，0， 1

    df_X[xVarName] = df_dropna[xVarName]
    df_Y[yVarName] = df_dropna[yVarName]

    df_X["intercept"] = 1.0  # 截距项

    YColumnList = list(df_Y[yVarName].values)
    setYColumnList = list(set(YColumnList))

    # print(setYColumnList)
    if len(setYColumnList) > 2 or len(setYColumnList) < 2:
        raise MyCustomError(retcode=4015)
    # else:
    if len(setYColumnList) == 2 and [0, 1] != [int(i) for i in setYColumnList]:
        newYcolumnsList = []
        for i in YColumnList:
            if i == setYColumnList[0]:
                newYcolumnsList.append(0)
            else:
                newYcolumnsList.append(1)
        df_Y = DataFrame({yVarName: newYcolumnsList})
    logit = sm.Logit(df_Y, df_X)
    res = logit.fit()
    res_all = res.summary()
    LogLikelihood = [i.strip() for i in str(res_all).split("\n")[6].split("   ") if i][3]
    # 没找到具体参数， 只能这么分割
    index_var = [i.strip() for i in str(res_all).split("\n")[12].split("   ") if i]
    intercept = [i.strip() for i in str(res_all).split("\n")[13].split("   ") if i]
    std_err = [index_var[2], intercept[2]]
    z = [index_var[3], intercept[3]]
    P_z = [index_var[4], intercept[4]] # 显著性
```

```
interval_25 = [index_var[5], intercept[5]]
interval_975 = [index_var[6], intercept[6]]
Odds_Ratio = [math.e ** i for i in list(res.params)]
return {
    "No_Observations": res.nobs,#No. Observations
    "Pseudo_R": res.prsquared,# Pseudo R^2
    "Log_Likelihood": LogLikelihood, # LogLikelihood
    "LLNull": res.llnull,
    "llr_pvalue": res.llr_pvalue, #l l r显著性
    "coef": list(res.params), # 系数
    "std_err": std_err,
    "Odds_Ratio": Odds_Ratio,
    "z": z,
    "P": P_z, #显著性
    "interval_25": interval_25, # 区间0.025
    "interval_975": interval_975
}
```