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#!/bin/bash
# Created by Darren Holland
# Modified by Darren Holland 2020-11-02
#**********************************************************************
# File for running MAS design evaluation and passing the output back
# to Dakota.
#**********************************************************************
# $1 is foldername.para FROM Dakota
# $2 is foldername.res returned to Dakota

# --------------
# PRE-PROCESSING
# --------------
# Get the project name and design number from the filename
temp=$1
temp2="$(pwd)"
projname="${temp%.*}"
extension="${temp2#*.}"

# --------
# ANALYSIS
# --------
# Pass project, design number, and result filename into design evaluation
cp ../../GeantEval$projname.sh ../../MASEval.sh
sed -i -e  "s?.MOGApara?.MASpara?g" "../../MASEval.sh"
sed -i -e  "s?Method=\"MOGA\"?Method=\"MAS\"?g" "../../MASEval.sh"

../../MASEval.sh $projname $extension $2

# ---------------
# POST-PROCESSING
# ---------------
# Change the design number into a five digit value
if [[ $extension -lt 10 ]]
then
      fullext=""0000$extension""
fi
if [[ $extension -lt 100 ]] && [[ $extension -ge 10 ]]
then
      fullext=""000$extension""
fi
if [[ $extension -lt 1000 ]] && [[ $extension -ge 100 ]]
then
      fullext=""00$extension""
fi
if [[ $extension -lt 10000 ]] && [[ $extension -ge 1000 ]]
then
      fullext=""0$extension""
fi
if [[ $extension -ge 10000 ]]
then
      fullext=""$extension""
fi

# ONLY PULL OUT OBJECTIVE FUNCTIONS NEEDED FOR CURRENT ANALYSIS
# Extract objective value from the simulation output
# Use total time (Ttotal) as objective function
cp $2 DesignResults.o
Bad_Geo=$(grep 'Bad_Geo ' "$2" | cut -c 8-)

# Put objective values in file to pass back to Dakota
if [[ $Bad_Geo -lt 1 ]]
then
    # Valid design
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      Ttotal=$(grep 'Ttotal ' "$2" | cut -c 8-)
    Obj=$Ttotal
    echo $Obj >> results.tmp
else
    # Invalid design, set to inf
      echo 'inf' >> results.tmp
fi

# Rename temporary file as return file
mv results.tmp $2
```