

FA2016 VM433 Project 1 Part A2 & A3 Sample Answer

1. Finish writing functions “findHPTIsenEff”, “findLPTIsenEff”, “findHPTPolyEff”, “findLPTPolyEff” and “findTurbineExtractT” in the given zip file.
2. Set polytropic efficiency stages = 15 in your functions while calculating polytropic efficiencies.
3. Run “P1_A2_A3_main.m” (**without changing it**) in the given zip file as main script, you should be able to see the following answers displayed in command window:

```
Command Window
Results for Project 1 Part A2:

Isentropic efficiency for HPT = 60.71 %
Isentropic efficiency for IPT = 84.26 %
Isentropic efficiency for LPT = 75.65 %

Polytropic efficiency for HPT = 57.32 %
Polytropic efficiency for IPT = 80.96 %
Polytropic efficiency for LPT = 71.97 %

Results for Project 1 Part A3:

Extraction steam temperature for FWH1 = 81.32 °C
Extraction steam temperature for FWH2 = 205.71 °C
Extraction steam temperature for FWH4 = 323.83 °C
Extraction steam temperature for FWH5 = 349.94 °C
Extraction steam temperature for FWH6 = 372.33 °C

fx >> |
```

4. Change the data in “P1_A2_A3_main.m” to be the data given by Ivanpah Heat Balance Diagram, save it as “main.m”, submit together with the functions.