# Project TeamworkTemplate

Version 1 9/11/24

A ***separate copy*** of this template should be filled out and submitted by each student, regardless of the number of students on the team. Also change the title of this template to “Project x Teamwork <team> - <netid>”

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| 1 | Team Name: dbrown39 |
| 2 | Individual name: Declan Brown |
| 3 | Individual netid: dbrown39 |
| 4 | Other team members names and netids: N/A |
| 5 | Link to github repository: https://github.com/dbrown39nd/TOCProject2 |
| 6 | Overall project attempted, with sub-projects: K-Tape TM |
| 7 | List of included files (if you have many files of a certain type, such as test files of different sizes, list just the folder): (Add more rows as necessary). Add more rows as necessary. |

| File/folder Name | File Contents and Use |
|---|---|
| Code Files | |
| main_dbrown39.py<br>src/tape_dbrown39.py<br>src/TuringMachine_dbrown39.py | **main.py**: driver, reads all inputs from input/* and executes turing machine.<br>**tape.py:** Tape class which is just a single tape object. Has methods: update_date, get_head, move_tape, and toString().<br><br>**TuringMachine_dbrown39.py**:<br>K-tape Turing Machine that has methods execute, _check_input, _take_transition, _format_output, |
| Test Files | |
| input/test01_dbrown39.csv<br>input/test02_dbrown39.csv<br>input/test03_dbrown39.csv<br>input/test04_dbrown39.csv | test01 and test02 are valid and invalid inputs, respectively, for the language w#w^R using 2 tapes,<br>test03 and test04 are valid and invalid inputs, respectively, for the language w#w#w#w, using 4 tapes. |

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| | <table><tr><th colspan="2">Output Files</th></tr><tr><td>output/test01_dbrown39.txt<br>output/test02_dbrown39.txt<br>output/test03_dbrown39.txt<br>output/test04_dbrown39.txt</td><td>test01 and test02 are the output trace of t1 and t2 respectively, for the language w#w^R using 2 tapes,<br>test03 and test04 are the output traces of t2 and t3 respectively, for the language w#w#w#w, using 4 tapes.</td></tr></table> |
| 8 | Individual Student time (in hours) to complete: 10 hrs |
| 9 | Your specific activities and responsibilities. I implemented the whole project by myself |
| 10 | What was personally learned (topic, programming, algorithms)<br>This project further emphasized the importance of breaking complex computer programming down into small, functional components (ie. Tape class), and using those functional components to build complex machines. That is exactly what we did in this TuringMachine project. I already understood Turing Machines, but now I won't forget them. They are very simple, but annoying to use to solve complex languages. |
| 11 | How team was organized, and what might be improved. I worked by myself. I should have given myself more time for test cases, but I was swamped with other work this week. |



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| 12 | Any additional material: No |