30038692 Mason Balaam (FCES)

Encoding and Decoding assignment results

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Encoding and decoding test data table

Introduction

This document will show the code results that I had been enlisted to do so. Aspects that will also be included would be possible errors I encountered during my experience and potential improvements that I should fit into the next time I’m given a job like this one.

Results table of the Encoder

|  |  |  |  |
| --- | --- | --- | --- |
| Input | Expected output | Actual output | Criteria met |
| STORE 2042H, A | 704220H | 704220H | yes |
| Move A, -20 | 45ECH | Move A, -20 | Yes |
| Move C, C | 52H | 52H | yes |
| ADD B, D | 0BH | 0BH | yes |
| ADD D, -15 | 1DF1H | 1DF1H | yes |
| LOAD B, 2345H | 4E4523H | 4E4523H | yes |
| JMP 1234H | 803412H | 803412H | yes |
| JPP 2345H | 824523H | 824523H | yes |
| JPZ 5432H | 813254H | 813254H | yes |
| JPN 4321H | 832143H | 832143H | yes |
| ADD F, G | Invalid argument at memory location(error) | error | yes |
| MOVE E, F | Invalid argument at memory location(error) | Error | yes |

During the process of conducting the encoding, I had come across many problems which had arisen due to my poor validation on some aspects, which had caused some of the inputs to come back as errors; this had come to light mainly when dealing with inputs which the code was unable to handle and had existed outside of the range which it was detecting for.

Results of the decoder

|  |  |  |  |
| --- | --- | --- | --- |
| Input | Expected output | Actual output | Criteria met |
| 704220H | STORE 2042H, A | STORE 2042H, A | yes |
| 45ECH | Move A, -20 | MOVE A, -20 | yes |
| 52H | Move C, C | Move C, C | yes |
| 0BH | ADD B, D | ADD B, D | yes |
| 1DF1H | ADD D, -15 | ADD D, -15 | Yes, but cause and error |
| 4E4523H | LOAD B, 2345H | LOAD B, 2345H | Yes |
| 803412H | JMP 1234H | JMP 1234H | yes |
| 824523H | JPP 2345H | JPP 2345H | yes |
| 813254H | JPZ 5432H | JPZ 5432H | yes |
| 832143H | JPN 4321H | JPN 4321H | yes |
| L | error | lH | No, but it’s still a terrible result |
| This is an invalid input | THIS IS AN | THIS IS AN | yes |

As seen above, I have used the same inputs as the previous outputs to validate that my code does indeed work both ways, but as seen in the table above, I had some issues with the added area of my code.

In conclusion, If I were to do this again, I would without a doubt make sure that I have thoroughly tested my validation and even added some more to make my code more reliable.