**Rules**

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| **Variable Name** | **Meaning** | **Node** |
| STEM | Is Student interested in STEM? | 1 |
| MED | Is Student interested in the Medical field? | 2 |
| TEACH | Is Student interested in Teaching? | 3 |
| ART | Is Student interested in Art? | 7 |
| RESEARCH | Is Student interested in Researching? | 5 |
| GOV | Is Student interest in Government or Legal? | 11 |
| POL | Does the Student want to work for a politician? | 12 |
| CORP | Does the Student want to work for a corporation? | 13 |
| COMM | Is the Student interested in Communication? | 16 |
| STUDY | What field of study should the student go into? | 4,6,8,9,10,14,15,17,18,19 |

**Backwards Changing Rules**

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|  | **Rule** | **Path** |
| 1 | IF STEM = YES AND MED = YES, THEN STUDY = MEDICAL | 1,2,4 |
| 2 | IF STEM = YES AND MED = NO AND RESEARCH = YES, THEN STUDY = SCIENCE | 1,2,5,8 |
| 3 | IF STEM = YES AND MED = NO AND RESEARCH = NO, THEN STUDY = ENGINEERING | 1,2,5,9 |
| 4 | IF STEM = NO AND TEACH = YES, THEN STUDY = EDUCATION | 1,3,6 |
| 5 | IF STEM = NO AND TEACH = NO AND ART = YES, THEN STUDY = FINE ARTS | 1,3,7,10 |
| 6 | IF STEM = NO AND TEACH = NO AND ART = NO AND GOV = YES AND POL = YES, THEN STUDY = POLITICS | 1,3,7,11,12,14 |
| 7 | IF STEM = NO AND TEACH = NO AND ART = NO AND GOV = YES AND POL = NO, THEN STUDY = LAW | 1,3,7,11,12,15 |
| 8 | IF STEM = NO AND TEACH = NO AND ART = NO AND GOV = NO AND CORP = YES AND COMM = YES, THEN STUDY = COMMUNICATIONS | 1,3,7,11,13,16,18 |
| 9 | IF STEM = NO AND TEACH = NO AND ART = NO AND GOV = NO AND CORP = YES AND COMM = NO, THEN STUDY = BUSINESS | 1,3,7,11,13,16,19 |
| 10 | IF STEM = NO AND TEACH = NO AND ART = NO AND GOV = NO AND CORP = NO, THEN STUDY = LIBERAL ARTS | 1,3,7,11,13,17 |