**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 |

**Forward Chaining Rules**

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|  | **Rule** |
| 11 | IF MONEY = YES, AND IF ANYS = YES, THEN PROF = FINANYS |
| 12 | IF MONEY = YES, AND IF ANYS = NO, THEN PROF = ACCT |
| 13 | IF MONEY = NO, AND IF CONSULT= YES, THEN PROF = MANCONSULT |
| 14 | IF MONEY = NO, AND IF CONSULT= NO AND IF ADVERS = YES, THEN PROF = ADVERS |
| 15 | IF MONEY = NO, AND IF CONSULT= NO AND IF ADVERS = NO, THEN PROF = DATAANAYS |
| 16 | IF BRAND = YES, AND IF MEDIA = YES, THEN PROF = SOCMEDMAN |
| 17 | IF BRAND = YES, AND IF MEDIA = NO AND SALES = YES, THEN PROF = SALESREP |
| 18 | IF BRAND = YES, AND IF MEDIA = NO AND SALES = NO, THEN PROF = PUBRELAS |
| 19 | IF BRAND = NO, AND IF JOURN = YES, THEN PROF = REPORTER |
| 20 | IF BRAND = NO, AND IF JOURN = NO, THEN PROF = EVETPLAN |
| 21 | IF TEACH = YES, AND IF SPECED = YES, THEN PROF = SPECEDTEACH |
| 22 | IF TEACH = YES, AND IF SPECED = NO AND PRIMSCH = YES, THEN PROF = PRIMTEACH |
| 23 | IF TEACH = YES, AND IF SPECED = NO AND PRIMSCH = NO, THEN PROF = SECTEACH |
| 24 | IF TEACH = NO, AND IF ADMIN = YES, THEN PROF = PRINCIPAL |
| 25 | IF TEACH = NO, AND IF ADMIN = NO, THEN PROF = SCHCOUNC |
| 26 | IF MECPHY = YES, AND IF PUBWORK = YES, THEN PROF = CIVENG |
| 27 | IF MECPHY = YES, AND IF PUBWORK = NO, THEN PROF = MECHENG |
| 28 | IF MECPHY = NO, AND IF CIRCUR = YES AND COMP = YES, THEN PROF = COMENG |
| 29 | IF MECPHY = NO, AND IF CIRCUR = YES AND COMP = NO, THEN PROF = ELECENG |
| 30 | IF MECPHY = NO, AND IF CIRCUR = NO, THEN PROF = SOFTENG |
| 31 | IF DIGMED = YES, AND IF ANIMA = YES, THEN PROF = ANIMATOR |
| 32 | IF DIGMED = YES, AND IF ANIMA = NO, THEN PROF = GRAPHDES |
| 33 | IF DIGMED = NO, AND IF PHOTO = YES, THEN PROF = PHOTOGER |
| 34 | IF DIGMED = NO, AND IF PHOTO = NO AND ARCH = YES, THEN PROF = INTERDES |
| 35 | IF DIGMED = NO, AND IF PHOTO = NO AND ARCH = NO, THEN PROF = COMARTS |
| 36 | IF LAWYER = YES, AND IF PATLAW = YES, THEN PROF = PATLAWYER |
| 37 | IF LAWYER = YES, AND IF PATLAW = NO AND POLIT = YES, THEN PROF = POLITLAW |
| 38 | IF LAWYER = YES, AND IF PATLAW = NO AND POLIT = NO AND CORP = YES, THEN PROF = CROPLAW |
| 39 | IF LAWYER = YES, AND IF PATLAW = NO AND POLIT = NO AND CORP = NO, THEN PROF = TRIALLAW |
| 40 | IF LAWYER = NO, THEN PROF = JUDCLERK |
| 41 | IF PEOPLE = YES, AND IF CORP = YES AND IF PUB = YES, THEN PROF = PUBRELA |
| 42 | IF PEOPLE = YES, AND IF CORP = NO AND IF PUB = NO, THEN PROF = HUMRES |
| 43 | IF PEOPLE = YES, AND IF CORP = NO, THEN PROF = PSYCH |
| 44 | IF PEOPLE = NO, AND IF WRITE = YES, THEN PROF = WRITER |
| 45 | IF PEOPLE = NO, AND IF WRITE = NO, THEN PROF = ECON |
| 46 | IF HOS = YES, AND IF TEETH = YES, THEN PROF = DENTIST |
| 47 | IF HOS = YES, AND IF TEETH = NO AND PHD = YES, THEN PROF = PHYSICIAN |
| 48 | IF HOS = YES, AND IF TEETH = NO AND PHD = NO, THEN PROF = NURSE |
| 49 | IF HOS = NO, AND IF ANIMAL = YES, THEN PROF = VET |
| 50 | IF HOS = NO, AND IF ANIMAL = NO, THEN PROF = PHARM |
| 51 | IF OFF = YES, THEN PROF = GOVOFFIC |
| 52 | IF OFF = NO AND ASSTPOLIT = YES AND CAMP = YES, THEN PROF = CAMPSTAFF |
| 53 | IF OFF = NO AND ASSTPOLIT = YES AND CAMP = NO, THEN PROF = POLYANAYS |
| 54 | IF OFF = NO AND ASSTPOLIT = NO AND AFFECPOLY = YES, THEN PROF = LOBBYIST |
| 55 | IF OFF = NO AND ASSTPOLIT = NO AND AFFECPOLY = NO, THEN PROF = LEGASSIT |
| 56 | IF BIO = YES AND HUMAN = YES AND CRIME = YES, THEN PROF = FORENSICSCI |
| 57 | IF BIO = YES AND HUMAN = YES AND CRIME = NO, THEN PROF = MEDSCI |
| 58 | IF BIO = YES AND HUMAN = NO, THEN PROF = ENVIROSCI |
| 59 | IF BIO = YES AND CHEM = YES, THEN PROF = CHEMIST |
| 60 | IF BIO = YES AND CHEM = NO, THEN PROF = PHYSICIST |