

```
code = list()
REGISTER_AVAILABLE = {"R0" : 0, "R1": 0}
def generateCode():
    firstMoveDone = False
    index = 0
    for key,value in TAC.items():
        if not firstMoveDone:
            if anyRegEmpty():
                emptyReg = ""
                for i,j in REGISTER_AVAILABLE.items():
                    if j == 0:
                        emptyReg = i
                        REGISTER_AVAILABLE[i]=1
                        break
                operand = value.split("=")[1][0]
                nextOperand = value.split("=")[1][2]
                operation = value.split("=")[1][1]
                for l,k in OPCODE.items():
                    if l == operation:
                        opcode = k
                code.append(f"MOV {operand}, {emptyReg}")
                code.append(f"{opcode} {nextOperand}, {emptyReg}")
                firstMoveDone = True
        elif firstMoveDone:
            if anyRegEmpty():
                for i,j in REGISTER_AVAILABLE.items():
                    if j == 0:
                        emptyReg = i
                        index+=1
                        REGISTER_AVAILABLE[i] = 1
                        break
            print(value)
```

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        operand = value.split("=")[1][0]
        nextOperand = value.split("=")[1][2]
        operation = value.split("=")[1][1]
        code.append(f"MOV {operand}, {emptyReg}")
        code.append(f"{opcode} {nextOperand}, {emptyReg}")
    print(value)
generateCode()

```

```

T2=c+d
T2=c+d
T3=T2-e
T3=T2-e
x=T1-T3
x=T1-T3

```

code

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['MOV a, R0',
 'ADD b, R0',
 'MOV c, R1',
 'ADD d, R1',
 'MOV T, R1',
 'ADD -, R1',
 'MOV T, R1',
 'ADD -, R1']

```

```
REGISTER_AVAILABLE = {"R0" : 0, "R1": 0}
```

```
TAC = {"1": "count=0", "2": "result=0", "3": "if count > 20 GOTO 8", "4": "count=count + 1"
```

