

# ELEN4020-LAB1

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**Abstract:**

**Key words:**

## 1. INTRODUCTION

## 2. 2D TENSOR ADD

### 2.1 Code

```
N=size(A)
for i=0 to N-1 do
    for j=0 to N-1 do
        C[i][j]=A[i][j]+B[i][j]
    end for
end for
```

```
end for
end for
```

## 3. 2D TENSOR MULTIPLY

```
N=size(A)
C=zeros(N,N)
for k=0 to N-1 do
    for i=0 to N-1 do
        for j=0 to N-1 do
            C[i][j]=C[i][j]+A[i][k]*B[k][j]
        end for
    end for
end for
```

## 4. 3D TENSOR ADD

```
N=size(A)
for i=0 to N-1
    for j=0 to N-1
        for k=0 to N-1
            C[i][j][k]=A[i][j][k]+B[i][j][k]
        end for
    end for
end for
```

## 5. 3D TENSOR MULTIPLY

```
N=size(A)
C=zeros(N,N,N,N)
for h=0 to N-1 do
    for i=0 to N-1 do
        for j=0 to N-1 do
            for g=0 to N-1 do
                for k=0 to N-1 do
                    C[h][i][j][g] = C[h][i][j][g]+A[h][i][k]*B[k][j][g]
                end for
            end for
        end for
    end for
end for
```

## 6. CONCLUSIONS

[? ]

## REFERENCES

## APPENDIX