

```
SUBROUTINE NORMAL_3D(X,Y,Z,XX,YY,ZZ,XN,YN,ZN,S,M,N,AF)
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REAL X(M,4),Y(M,4),Z(M,4),XN(M),YN(M),ZN(M)
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```
REAL AF(M),S(M),YY(M),XX(M),ZZ(M)
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```
DO 100 I=1,N
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```
R1=X(I,3)-X(I,1)
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R2=Y(I,3)-Y(I,1)
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```
R3=Z(I,3)-Z(I,1)
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R4=X(I,4)-X(I,2)
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R5=Y(I,4)-Y(I,2)
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R6=Z(I,4)-Z(I,2)
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```
R=SQRT((R5*R3-R6*R2)**2+(R6*R1-R4*R3)**2+(R4*R2-R5*R1)**2)
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```
XN(I)=(R5*R3-R6*R2)/R
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```
YN(I)=(R6*R1-R4*R3)/R
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```
ZN(I)=(R4*R2-R5*R1)/R
```

```
XX(I)=.25*(X(I,1)+X(I,2)+X(I,3)+X(I,4))
```

```
YY(I)=.25*(Y(I,1)+Y(I,2)+Y(I,3)+Y(I,4))
```

```
ZZ(I)=.25*(Z(I,1)+Z(I,2)+Z(I,3)+Z(I,4))
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```
T1=X(I,2)-X(I,1)
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```
T2=Y(I,2)-Y(I,1)
```

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```
T3=Z(I,2)-Z(I,1)
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```
T4=X(I,4)-X(I,1)
```

```
T5=Y(I,4)-Y(I,1)
```

```
T6=Z(I,4)-Z(I,1)
```

```
R=.5*SQRT((T2*R3-T3*R2)**2+(T3*R1-T1*R3)**2+(T1*R2-T2*R1)**2)
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T=.5*SQRT((R2*T6-R3*T5)**2+(R3*T4-R1*T6)**2+(R1*T5-R2*T4)**2)
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```
100 S(I)=R+T
```

```
DO 110 I=1,N
```

```
H1=SQRT((X(I,1)-X(I,4))**2+(Y(I,1)-Y(I,4))**2+(Z(I,1)-Z(I,4))**2)
```

```
H2=SQRT((X(I,2)-X(I,3))**2+(Y(I,2)-Y(I,3))**2+(Z(I,2)-Z(I,3))**2)
```

```
W1=SQRT((X(I,2)-X(I,1))**2+(Y(I,2)-Y(I,1))**2+(Z(I,2)-Z(I,1))**2)
```

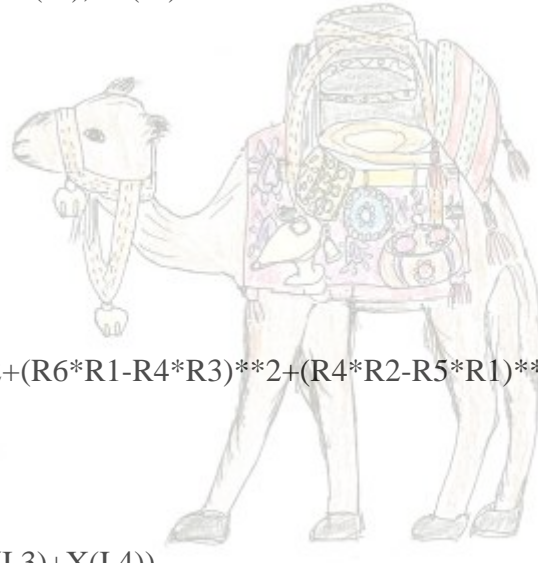
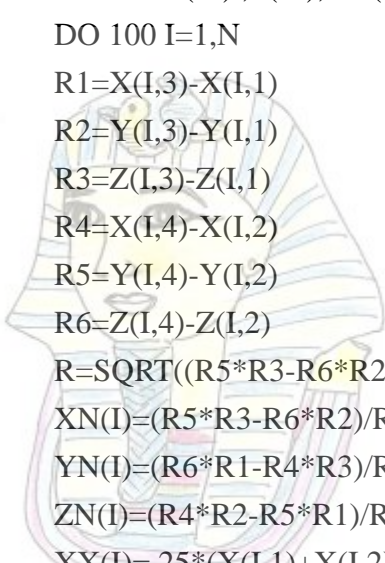
```
W2=SQRT((X(I,3)-X(I,4))**2+(Y(I,3)-Y(I,4))**2+(Z(I,3)-Z(I,4))**2)
```

```
AF(I)=(H1+H2)/(W1+W2)
```

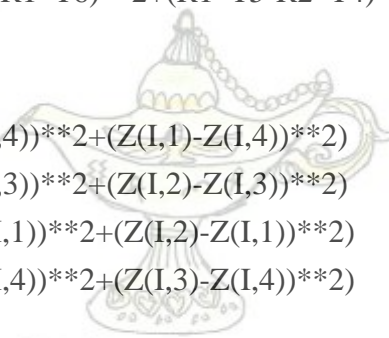
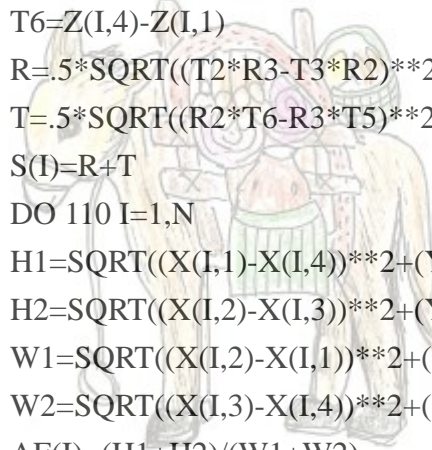
```
110 CONTINUE
```

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RETURN
```

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END
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載滿珠寶的駱駝



阿拉丁神燈

載到寶物的馬廐手