ECON 331

HOMEWORK ASSIGNMENT #2

The system of equations which represents the investor's problem is:

.75C   + .3E = 50 (invested in Canada)

.25C + .85U + .2E = 30 (invested in U.S.)

       .15U + .5E = 20 (invested in England)

The coefficient matrix is:

```
> with(linalg):
> A:=matrix( 3, 3, [.75, 0, .3, .25, .85, .2, 0, .15, .5]);
```
Warning, the protected names norm and trace have been redefined and unprotected

$$A := \begin{bmatrix} 0.75 & 0 & 0.3 \\ 0.25 & 0.85 & 0.2 \\ 0 & 0.15 & 0.5 \end{bmatrix}$$

The vector of constants is:

```
> d:=vector( [50, 30, 20]);
```
$$d := [50, 30, 20]$$

The amounts to be invested in the three companies, C, U and E (a vector, x) is found by premultiplying the inverse of A with d:

```
> A_inv:=inverse(A);
```

$$A\_inv := \begin{bmatrix} 1.284552846 & 0.1463414634 & -0.8292682927 \\ -0.4065040650 & 1.219512195 & -0.2439024390 \\ 0.1219512195 & -0.3658536585 & 2.073170732 \end{bmatrix}$$

```
> x:=evalm( A_inv &* d);
```
$$x := [52.03252035, 11.38211382, 36.58536586]$$

```
>
```