* COSTO *

det (costo) il costo del calcolo del valore di una funzione è il numero di op elem effettuate.

Oss: def ragionevole se...

es: $x, y \in \mathbb{R}^n$; $x^T y$ costa ... n prodotti + $(n-1)$ somme ... costo (asintotico) $\sim 2n$.

(1) Costo EGPP: $\sim \frac{2}{3} n^3$

(2) Costo SI, SA: $\sim n^2$

(3) Costo calcolo "buono" di fatt QR: $\sim \frac{4}{3} n^3$

⇒ costo soluz sist (fatt + SA + SI):

$\sim \frac{2}{3} n^3$ (EGPP) / $\sim \frac{4}{3} n^3$ (QR)

number_properties

determine floating-point parameters

Calling Sequence

```
pr = number_properties(prop)
```

Arguments

prop
: string

pr
: real or boolean scalar

Description

This function may be used to get the characteristic numbers/properties of the floating point set denoted here by F(b,p,emin, emax) (usually the 64 bits float numbers set prescribe by IEEE 754). Numbers of F are of the form:

```
sign * m * b^e
```

e is the exponent and m the mantissa:

```
m = d_1 b^(-1) + d_2 b^(-2) + .... + d_p b^(-p)
```

d_i the digits are in [0, b-1] and e in [emin, emax], the number is said "normalised" if d_1 ~= 0. The following may be gotten:

prop = "radix"
: then pr is the radix b of the set F

prop = "digits"
: then pr is the number of digits p

prop = "huge"
: then pr is the max positive float of F

prop = "tiny"
: then pr is the min positive normalised float of F

prop = "denorm"
: then pr is a boolean (%t if denormalised numbers are used)

prop = "tiniest"
: then if denorm = %t, pr is the min positive denormalised number else pr = tiny

prop = "eps"
: then pr is the epsilon machine (generally (b^(1-p))/2) which is the relative max error between a real x (such than |x| in [tiny, huge]) and fl(x), its floating point approximation in F

prop = "minexp"
: then pr is emin

prop = "maxexp"
: then pr is emax