

C - invented "To do work"

C constants

A. integer constants rules

- must start with +, -, digit
- must have 1 or more digits
- allowable range (on PC)

-2147 483,648 → +2,147 483,647

- no spaces, commas
- if constant starts with digit, assumed ⊕

B. float constants

- must have at least one digit
- " " exactly one decimal point
- may start with + or -
- no commas, spaces allowed
- must have f suffix

Legal .0f 3.f 6.2814f

- range $\pm 10^{\pm 38}$
- 7-8 digits of precision

C. double constants

just like float except:

- no f suffix
- 15-16 digits of precision
- range $\pm 10^{\pm 308}$
- may have suffix e followed by int

Legal: 3.14159265358979

6.2

-5123.456

1.06e-19

.602e23

$\curvearrowright \times 10^0$

Space required for constants

int 4 bytes

float 4 bytes

double 8 byte

Variables - name for a memory location

③

rules for naming

not recommended
↓ recommends

- must begin with letter or _
- remaining characters may be letters, digits or _
- upper/lower case NOT same
i.e. Gross_pay different from gross_pay
- some systems may limit length (unlimited in PC's)

Legat

hours

ece160

, A_cute_cat

PI

, Some Value About Electrons

i

j

First C program

(4)

```
// this is a comment  
// use comment for your name  
// a documentation
```

make
life easy
↓

```
#define _CRT_SECURE_NO_WARNINGS
```

```
#include <stdio.h>
```

```
void main()
```

```
{  
    int p, n; // p is principle, n is #year  
    float r, si; // r is interest rate, si  
                                     simple interest
```

```
    p = 1000; // set p to 1000
```

```
    r = 8.5;
```

```
    n = 3;
```

```
    si = p * n * r / 100;
```

```
    printf("%f", si);
```

```
}
```