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pack. Puts up to six integers (values up to 256) into the **character** variable *a*.

```
"utils.f" 0.1 ≡
  @m ARB 1
  @m YES 0
  @m NO 1
  @m ERR -1

  @m BYTES_PER_INTEGER 4
  @m LEAST_BYTE 1

  @m END_OF_FILE -1

  @m NO_OF_TYPES 20
  @m INT_BLOCK_SIZE 20

  @m LAST_BLOCK 1
  @m NOT_LAST_BLOCK 0

  @m ERROR_OUTPUT_UNIT 6

  @m MAX_BASIS_FUNCTIONS 255
  @m MAX_PRIMITIVES 1000
  @m MAX_CENTRES 50

  @m MAX_ITERATIONS 60

  @m UHF_CALCULATION 10
  @m CLOSED_SHELL_CALCULATION 20

  subroutine pack(a, i, j, k, l, m, n);
  character*8 a, b;
  integer i, j, k, l, m, n;

  {
  data b/"_UUUUUUUU"/;
  a = b;
  a(1 : 1) = char(i);
  a(2 : 2) = char(j);
  a(3 : 3) = char(k);
  a(4 : 4) = char(l);
  a(5 : 5) = char(m);
  a(6 : 6) = char(n);
  return;
  }
```

unpack. Extracts the six integers from the **character** variable *a*.

```
"utils.f" 0.2 ≡  
  subroutine unpack(a, i, j, k, l, m, n);  
  character*8 a;  
  integer i, j, k, l, m, n;  
  
  {  
    i = ichar(a(1 : 1));  
    j = ichar(a(2 : 2));  
    k = ichar(a(3 : 3));  
    l = ichar(a(4 : 4));  
    m = ichar(a(5 : 5));  
    n = ichar(a(6 : 6));  
    return;  
  }
```

1 putint

put integral to file

```
"utils.f" 1 ≡
  subroutine putint(nfile, i, j, k, l, mu, val, pointer, last);
  implicit double precision(a-h, o-z);
  save;
  integer nfile, i, j, k, l, mu, pointer, last;
  double precision val;

  {
  double precision value(INT_BLOCK_SIZE);
  character*8 labels(INT_BLOCK_SIZE);
  data maxpointer/INT_BLOCK_SIZE/, id/0/;

  if (last ≡ ERR)
    return;
  iend = NOT_LAST_BLOCK;
  if (pointer ≡ maxpointer)
    {
    write(nfile) pointer, iend, labels, value;
    pointer = 0;
    }

  pointer = pointer + 1;
  call pack(labels(pointer), i, j, k, l, mu, id);
  value(pointer) = val;
  if (last ≡ YES)
    {
    iend = LAST_BLOCK;
    last = ERR;
    write(nfile) pointer, iend, labels, value;
    }

  return;
}
```

2 getint

Hand out repulsion integrals one at a time

```
"utils.f" 2 ≡
  integer function getint(file, i, j, k, l, mu, val, pointer);
  integer file, i, j, k, l, mu, pointer;
  double precision val;

  {
  save;

  integer maxpointer, id, iend;
  double precision zero;
  double precision value(INT_BLOCK_SIZE);
  character*8 labels(INT_BLOCK_SIZE);
  data maxpointer/0/, iend/NOT_LAST_BLOCK/, zero/0.0 · 1000D/;

  /* file must be rewound before first use of this function and pointer must be set to 0 */
  if (pointer ≡ maxpointer) /* pointer must be initialised to 0 */
  {
    if (iend ≡ LAST_BLOCK)
    {
      val = zero;
      i = 0;
      j = 0;
      k = 0;
      l = 0;
      maxpointer = 0;
      iend = NOT_LAST_BLOCK;
      return (END_OF_FILE);
    }

    read(file) maxpointer, iend, labels, value;

    pointer = 0;
  }

  pointer = pointer + 1;
  call unpack(labels(pointer), i, j, k, l, mu, id); /* id is unused */
  val = value(pointer);
  return (OK);
}
```

3 INDEX

a: 0.1, 0.2.

ARB: 0.1.

b: 0.1.

BYTES_PER_INTEGER: 0.1.

char: 0.1.

CLOSED_SHELL_CALCULATION: 0.1.

END_OF_FILE: 0.1, 2.

ERR: 0.1, 1.

ERROR_OUTPUT_UNIT: 0.1.

file: 2.

getint: 2.

i: 0.1, 0.2, 1, 2.

ichar: 0.2.

id: 1, 2.

iend: 1, 2.

INT_BLOCK_SIZE: 0.1, 1, 2.

j: 0.1, 0.2, 1, 2.

k: 0.1, 0.2, 1, 2.

l: 0.1, 0.2, 1, 2.

labels: 1, 2.

last: 1.

LAST_BLOCK: 0.1, 1, 2.

LEAST_BYTE: 0.1.

m: 0.1, 0.2.

MAX_BASIS_FUNCTIONS: 0.1.

MAX_CENTRES: 0.1.

MAX_ITERATIONS: 0.1.

MAX_PRIMITIVES: 0.1.

maxpointer: 1, 2.

mu: 1, 2.

n: 0.1, 0.2.

nfile: 1.

NO: 0.1.

NO_OF_TYPES: 0.1.

NOT_LAST_BLOCK: 0.1, 1, 2.

OK: 2.

pack: 0.1, 1.

pointer: 1, 2.

putint: 1.

UHF_CALCULATION: 0.1.

unpack: 0.2, 2.

val: 1, 2.

value: 1, 2.

YES: 0.1, 1.

zero: 2.

COMMAND LINE: "fweave utils.web".

WEB FILE: "utils.web".

CHANGE FILE: (none).

GLOBAL LANGUAGE: RATFOR.