

number_str.c-216 2019-10-22 03:45:11

```
/** number_str.c
**/
#define NUMBER_STR

#include "lisp.h"
#include <stdio.h>

// #define format(p,obj) sprintf(iobuff,p,obj)
extern mpz_t mpzwork1;
/** extern void force_float(char *); write.c */
extern void Prin_sint(Long,int,char *);
extern void prin_G(double ,char *);

ptr number2str(Reg ptr q,int base){
  Reg int n;
  Reg ptr u;
  Reg char *pp;

  /** printf("number2 %x base %d\n",q,base); */
  if(base>36) error(E_range,MAKESINT(base));

  if(SREGP(q)){
    if(CHARP(q)) goto err;
    Prin_sint(GETNUM(q),base,iobuff);
    return CMAKESTR(iobuff);
  }
  n=ATTR(q);
  if(n&BIGINT){
    psh(q);
    pp=mpz_get_str(0,base,BIGNUM(q));
    q=CMAKESTR(pp);
    Myfree(pp);
    pull();
    return q;
  }
  else if(n&RATIO){
    psh(q);
    pp=mpq_get_str(0,base,RATIONAL(q));
    q=CMAKESTR(pp);
    Myfree(pp);
    pull();
    return q;
  }
  else if(n&DOUBLE){
```

```
    /** format("%f",FLONUM(q)); */
    prin_G(FLONUM(q),iobuff);
    //format("%-11.8g",FLONUM(q));
    //force_float(iobuff);
    return CMAKESTR(iobuff);
  }
  else if(n&COMPLEX){
    /** prin_s("#c"); */
    if(CAR(q)!=ZERO)
      u=number2str(CAR(q),base);
    else
      u=a_nullstr; /** CMAKESTR(""); */
    psh(u);
    q=CDR(q);
    if(gsign(q))
      u=str_append(u,CMAKESTR("-i"));
    else
      u=str_append(u,CMAKESTR("+i"));
    *(stack-1)=u;
    psh(q=ABS(q));
    if(q!=ONE){
      u=number2str(q,base);
      psh(u);
      u=str_append(*(stack-3),u);
      pull();
    }
    stack-=2;
    return u;
  }
}

err:
  return error(E_notnum,q);
}

ptr s_number2str(int narg,ptr env){
  int base;
  if(narg==1)
    base=10;
  else if(narg==2) base=GETNUM(*(stack-1));
  else
    checknarg(narg-2);
  return number2str(*(stack-narg),base);
}
```