CLASS HIERARCHY

```
class SPRITE
{
int error;
public:
SPRITE(void) { error=0; }
virtual void SETERROR(int err)
{ error=err; }
virtual int ERROR(void) {
return(error); }
virtual void STORE(unsigned
char far *buf,int x0,int y0);
virtual int READ_BIT(unsigned
char far *buf,char *bit);
};
```

```
class MAP : public SPRITE
{
unsigned char buf1[4*3]
[10*10];
public:
MAP(char *mapa="MAPAS.001");
void REFRESH(void);
void ECRAN(void);
~MAP(void);
};
```

```
class BACKGROUND :public
SPRITE
{
void STORE(unsigned char
far *buf,int x0,int y0);
public:
BACKGROUND(char
*fundo="FUNDO1.BIT",int
x0=0,int y0=0);
};
```

```
class BOY : public SPRITE
{
unsigned int DDX;
unsigned int DDY;
unsigned int SALT;
unsigned int MAXVIDA;
unsigned int MAXESCUDO;
unsigned int MAXPODER;
unsigned int MAXENERGIA;
unsigned int DISDISPARO;
unsigned int DISPINIC;
unsigned int poder;
int shield;
int step;
int jump;
int x1;
int y1;
unsigned char direc;
unsigned char deita;
int shoot;
unsigned char far *boneco[8];
int lives;
int energy;
unsigned int points;
unsigned int amunition;
public:
BOY(void);
void INCPOINTS(int point) { points+=point; }
void INCAMNO(void) { amunition++; }
void DECSHOOT(void) { shoot--; }
void RESETSHOOT(void) { shoot=0; }
int DECENERGY(void);
int SHOOT(void) { return(shoot); }
int ENDSHOOT(void) {return(shoot==DISDISPARO);
}
unsigned char DIREC(void) { return(direc); }
unsigned char DEITA(void) { return(deita); }
int X1() { return(x1); }
int Y1() { return(y1); }
void KEYWORD(KEYPRESS *tecla);
void MOVEMENT(KEYPRESS *tecla);
int LIVES(void) { return(lives); }
int FINISH(void) { return(x1==224 && y1==88);
}
void INFO(void);
void STORE(unsigned char far *buf=NULL,int
x0=0,int y0=0);
~BOY(void);
};
```

```
class FIGURE : public SPRITE
{
protected:
virtual void OBJECTS(void)=0;
virtual void COLISION(BOY
*boy,MUSIC *musica)=0;
};
```

```
class MONSTERIMAGES : public FIGURE
{
static int flag;
protected:
static unsigned char far *monstro[10];
static struct DESLOC
desloca[NUM_DESLOC];
public:
MONSTERIMAGES(int num=1,char
*name="DESLOC.001",char
*mons1="monstro1.bit",char
*mons2="monstro2.bit",char
*mons3="monstro3.bit",char
*mons4="monstro4.bit");
~MONSTERIMAGES(void);
};
```

```
class WEAPONS : public FIGURE
{
static int flag;
static unsigned char far
*atira;
int xdis;
int ydis;
unsigned int VELDISPARO;
struct STOPED stop;
public:
WEAPONS(int num, char
*name="PEDRA1.BIT");
WEAPONS(void) {}
void SET(int num,int value=0,
char *name="PARADO.001");
void SHOOT(BOY *boy);
void CRASH(MONSTER
*monstros,BOY *boy,MUSIC
*musica);
void OBJECTS(void);
void COLISION(BOY *boy,MUSIC
*musica);
~WEAPONS(void);
};
```

```
class GIFTS : public FIGURE
{
static int flag;
static unsigned char far
*prenda;
struct STOPED stop;
public:
GIFTS(int num, char
*name="BONECA1.BIT");
GIFTS(void) {}
void SET(int num,int
value=5, char
*name="PARADO.001");
void OBJECTS(void);
void COLISION(BOY
*boy,MUSIC *musica);
~GIFTS(void);
};
```

```
class SHARE : public FIGURE
{
static int flag;
static unsigned char far
*share;
struct STOPED stop;
public:
SHARE(int num, char
*name="FLOR1.BIT");
SHARE(void) {}
void SET(int num, int
value=4, char
*name="PARADO.001");
void OBJECTS(void);
void COLISION(BOY
*boy,MUSIC *musica);
~SHARE(void);
};
```

```
class BONUS : public FIGURE
{
static int flag;
static unsigned char far
*bonus[3];
struct STOPED stop;
public:
BONUS(int num, char
*name1="MACA1.BIT", char
*name2="PERA1.BIT", char
*name3="OVO1.BIT");
BONUS(void) {}
void SET(int num,int lowvalue=1,
int uppervalue=3, char
*name="PARADO.001");
void OBJECTS(void);
void COLISION(BOY *boy,MUSIC
*musica);
~BONUS(void);
};
```

```
class MONSTER : public MONSTERIMAGES
{
struct MOVING movel;
public:
MONSTER(int num) : MONSTERIMAGES(num) {}
MONSTER(void) {}
void SET(int num=1,char
*name="MOVEL.001");
unsigned char POINTER(void) {
return(movel.pointer); }
unsigned char SHIFT(void) {
return(movel.shift); }
unsigned char EXIST(void) {
return(movel.exist); }
unsigned char MONST(int desl,int img, int
monst) {
return(monstro[desloca[desl].image[img]]
[monst]); }
unsigned int X(void) { return(movel.x); }
unsigned int Y(void) { return(movel.y); }
void RESETEXIST(void) { movel.exist=0; }
void COLISION(BOY *boy,MUSIC *musica);
void OBJECTS(void);
};
```

```
struct STOPED
{
unsigned char
exist;
unsigned char kind;
unsigned int x;
unsigned int y;
};
```

```
struct MOVING :
public STOPED
{
unsigned char vel;
unsigned char
pointer;
unsigned char
shift;
};
```