

1. SASM Flags Manipulation

File: `sasm_flags.h`

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1.2. Flags Enum

The `Flags` enumeration defines individual CPU flag bit masks, allowing manipulation of specific flags using bitwise operations.

Flag	Bit Mask	Description
Halt	$1 \ll 0$	Halt flag
Sign	$1 \ll 1$	Sign flag
Overflow	$1 \ll 2$	Overflow flag
Carry	$1 \ll 3$	Carry flag
Borrow	$1 \ll 4$	Borrow flag
Parity	$1 \ll 5$	Parity flag
Zero	$1 \ll 6$	Zero flag

1.3. Flag Manipulation Functions

1.3.1. Halt Flag

- **Set Halt Flag**
-

```
void setHalt(CPU* cpu, bool halt);
```

Sets the Halt flag in the CPU structure based on the given halt value.

- **Get Halt Flag**

```
bool getHalt(const CPU* cpu);
```

Returns the current state of the Halt flag.

1.3.2. Sign Flag

- **Set Sign Flag**

```
void setSign(CPU* cpu, bool sign);
```

Sets the Sign flag in the CPU structure based on the given sign value.

- **Get Sign Flag**

```
bool getSign(const CPU* cpu);
```

Returns the current state of the Sign flag.

1.3.3. Overflow Flag

- **Set Overflow Flag**

```
void setOverflow(CPU* cpu, bool overflow);
```

Sets the Overflow flag in the CPU structure based on the given overflow value.

- **Get Overflow Flag**

```
bool getOverflow(const CPU* cpu);
```

Returns the current state of the Overflow flag.

1.3.4. Carry Flag

- **Set Carry Flag**

```
void setCarry(CPU* cpu, bool carry);
```

Sets the Carry flag in the `CPU` structure based on the given `carry` value.

- **Get Carry Flag**

```
bool getCarry(const CPU* cpu);
```

Returns the current state of the Carry flag.

1.3.5. Borrow Flag

- **Set Borrow Flag**

```
void setBorrow(CPU* cpu, bool borrow);
```

Sets the Borrow flag in the `CPU` structure based on the given `borrow` value.

- **Get Borrow Flag**

```
bool getBorrow(const CPU* cpu);
```

Returns the current state of the Borrow flag.

1.3.6. Parity Flag

- **Set Parity Flag**

```
void setParity(CPU* cpu, bool parity);
```

Sets the Parity flag in the `CPU` structure based on the given `parity` value.

- **Get Parity Flag**

```
bool getParity(const CPU* cpu);
```

Returns the current state of the Parity flag.

1.3.7. Zero Flag

- **Set Zero Flag**

```
void setZero(CPU* cpu, bool zero);
```

Sets the Zero flag in the CPU structure based on the given `zero` value.

- **Get Zero Flag**

```
bool getZero(const CPU* cpu);
```

Returns the current state of the Zero flag.