# SNP Aufgabe 3

## Zeichnen Sie alle Register der x86 CPU in ein Diagramm. Wie ist der Name für die 8-, 16- und 32-Bit Register?

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Register | General | | | | | | | | | | | | | | | | |
|  | Accumulator | | | | Counter | | | | Data | | | | | Base | | | |
| 32 | EAX | | | | EBX | | | | ECX | | | | EDX | | | | |
| 16 |  | | AX | |  | | BX | |  | | CX | |  | | | DX | |
| 8 |  |  | AH | AL |  |  | BH | BL |  |  | CH | CL |  | |  | DH | DL |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Register | Segment | | | | | | Indexes | | | | | | | |
|  |  | | | | | | Stack Pointer | | Stack Base Pointer | | Source | | Destination | |
| 32 |  | | | | | | RSP | | RBP | | RSI | | RDI | |
| 16 | CS | DS | ES | FS | GS | SS |  | ESP |  | EBP |  | ESI |  | EDI |
| 8 |  | | | | | |  | SP |  | BP |  | SI |  | DI |

EFLAGS:

Bit Label Desciption

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0 CF Carry flag

2 PF Parity flag

4 AF Auxiliary carry flag

6 ZF Zero flag

7 SF Sign flag

8 TF Trap flag

9 IF Interrupt enable flag

10 DF Direction flag

11 OF Overflow flag

12-13 IOPL I/O Priviledge level

14 NT Nested task flag

16 RF Resume flag

17 VM Virtual 8086 mode flag

18 AC Alignment check flag (486+)

19 VIF Virutal interrupt flag

20 VIP Virtual interrupt pending flag

21 ID ID flag