↳ Data type

↳ user define

↳ struct / union → Create for new datatype

int
4 wats

① create struct → to define compiler

② create object from this struct

↳ Declartion ↳ Definition

③ Access member inside object

(use → Dot Access) .

(use → Arrow Access) → Pointer of struct

create struct	create object	Access object

① struct student
{
uint8_t ID;
uint8_t Degree;
};
	* struct student S1;
	* struct student S2 = {1010, 40};
	ID Degree
		S1.ID = 2010;
		S2.ID = 2001;
		S1.Degree = 50;
		S2.Degree = 10;
		uint8_t y = S1.ID

② typedef struct student {uint8_t ID; uint8_t Degree; }NTIStudent_t;	* struct student S1; * NTIStudent_t S2; struct student S3 = {50, 100}; NTIStudent_t S4 = {240, 200};	S1.ID S2.ID S3.ID S4.ID
③ typedef struct {uint8_t ID uint8_t Degree }NIIstudent_t;	* NIIStudent_t S1 X NIIStudent_t S2 = {200, 50};	

example

↳ create object ✓

↳ create Array → NTIstudent_t G8[28];
↳ Array of struct

↳ create Pointer to struct

↳ NTI student_t S1;
NTI student_t *ptr = &S1;

ptr -> ID = 2005;
ptr -> Degree = 150;

↳ struct with Function;

Call by value

↳ void DisplayInfo (NTIstudent_t S1);

S1 = Ahmed
S1.ID = Ahmed.ID

{ Printf("%d\n", S1.ID);
Printf("%d\n", S2.Degree);
}

DisplayInfo(Ahmed);

↳ void SGnInfo (NTIstudent_t *S1)

{ SGnf("%d", &(S1->ID));
SGnf("%d", &(S1->Degree));
}

↳ NTIstudent_t SGanInfo (void)

{

NTI student_t temp;

SGanf("%d", &(temp.ID));

SGanf("%d", &(temp.Deg));

return temp;

}

NTI student Adham = SGanInfo();

→ we Can write Create struct inside header File

Bit field → step → 1Byte

type def struct

{

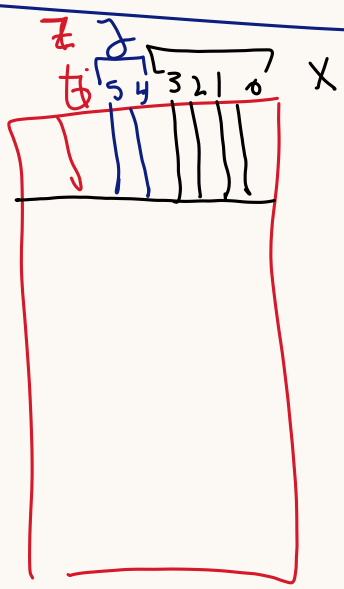
uint8_t x : 4; 15 → 3 bit

uint8_t y : 2 ; → 3 bit

uint8_t z : 1 ; → 1

} mf struct;

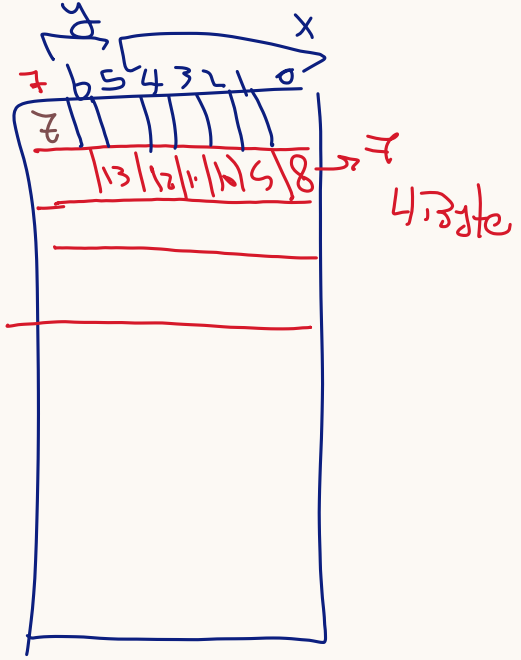
mf struct s1 ;



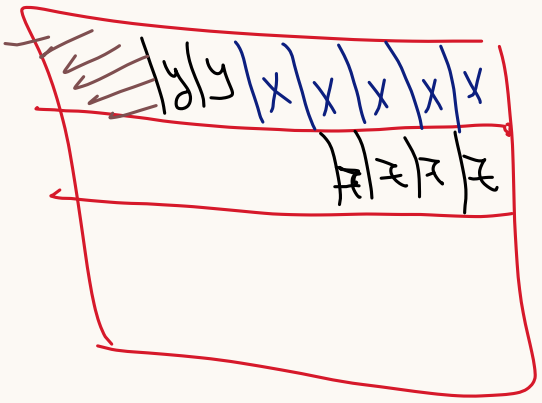
typedef struct → step (4/3 te

{
  uint8_t x : 5
  uint32_t y : 2
  uint16_t z : 10
  uint8_t t : 6
} s;

s str



uint8_t x : 5
uint8_t y : 2
uint8_t z : 4



→ Prototype → stackdepth extestion

→ stackdepth extestion

→ extestion

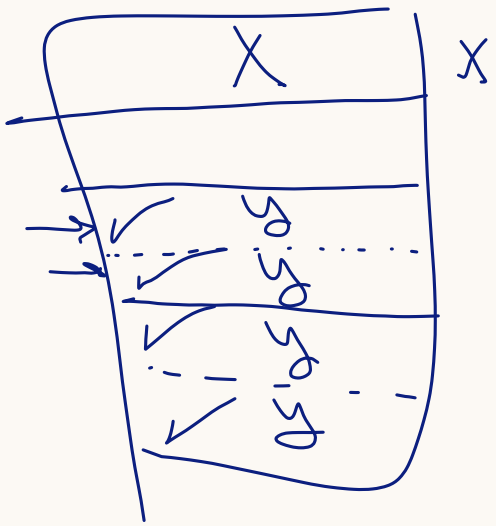
Userstory

① ② ③ → Features →

↳ Pipeline

↳ #pragma pack(2)

```
struct s
{
    uint8_t x;
    uint32_t y;
};
```



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