Passing arguments to the functions

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Outline

Passing arguments by value and by reference:

- primitive type
- struct type

Passing an integer

BY VALUE

```
// .....
void ModifValue(int);
int main()
{
  int a=3;
  ModifValue(a);
  printf("%d",a);
  return 0;
}

void ModifValue(int datum)
{
  datum=10;
}
```

BY REFERENCE

```
// .....
void ModifValue(int *);
int main()
{
  int a=3;
  ModifValue(&a);
  printf("%d",a);
  return 0;
}

void ModifValue(int *pdatum)
{
  *pdatum=10;
}
```

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Passing a datum to a function by value (*a*) means that the function takes a copy of the datum in other variable (*datum*) and operates with this copy which is independent of the variable *a*. **Please, answer in the forum which value displays on the screen the statement *printf* ??**

Passing a datum to a function by reference means to pass the memory address of the datum *(&a*). The function takes the address of the variable *a* on a pointer (*pdatum*). This pointer is related with the variable *a*, because is pointing to this variable. Every operation of the pointer will affect directly to a. **Please answer in the forum what value will be printed by the *printf* statement ??**

Passing a structure (I)

BY VALUE

```
// ……

struct card
{
  char name [50];
  float mark;
};
void ModifStruct(struct date);

int main()
{
  struct card studentCard = {"Anne Ristoo", 7.5};

  ModifStruct(studentCard);
  // Display the studentCard
  return 0;
}
void ModifStruct(struct card card)
{
  strcpy(card.name, "Mikko Salmi");
  card.mark = 5.5;
}
```

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In this case the datum passed by value is a structure.

`Which are the data displayed?` Please write the answer to the question in the forum.

Passing a structure (II)

BY REFERENCE

```
// .....

struct card
{
  char name [50];
  float mark;
};
void ModifStruct(struct date *);

int main()
{
  struct card studentCard = {"Anne Ristoo", 7.5};

  ModifStruct(&studentCard);
  // Display the studentCard.
  return 0;
}
void ModifStruct(struct card *pcard)
{
  strcpy(pcard->name, "Mikko Salmi");
  pcard->mark = 5.5;
}
```

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Please, note that we use an arrow to access to the members of a structure which is pointed by a pointer.

`Which are the data displayed?` Write your answer in the forum.