Pointeri

## Conținut

* Creare proiect Visual Studio
* Conceptul de pointer = variabila ce conține adresa altei variabile. Se utilizează pentru a face referire la o data cunoscuta prin adresa zonei de memorie alocata ei.
* Operatori: \*=indirectare (extrage conținutul de la o adresa), &=referențiere (extrage adresa zonei de memorie)

Ex: Int x, \*px;

px= &x;

x= 8; \*px = 8;

1. Near = in acelasi segement (2 octeti); Far = in segmente diferite (4 octeti)

Ex: tip[{near/far}] \*nume

1. Transmiterea parametrilor pe stiva:

- prin valoare: se creeza copii ale parametrilor de apel, valorile originale raman neschimbate

- prin adresa /prin referinta (la precompilare se inlocuieste & cu \*, se modifica in functie si apelul)

Exercitiul 1

|  |
| --- |
| #include <iostream>  **using** **namespace** std**;**  /\*  <iostream> uses \_STD\_BEGIN defined in "yvals.h" as #define \_STD\_BEGIN namespace std {  \*/  void swapValue**(**int a**,** int b**);**  void swapPointer**(**int **\***pa**,** int **\***pb**);**  void swapReference**(**int**&** a**,** int**&** b**);**  void main**()** **{**  //int \* p;  //\*p = 100;  std**::**cout **<<** "Hello World"**;**  int x **=** 10**,** y **=** 20**;**    cout **<<** endl **<<** "Initial values:"**;**  cout **<<** endl **<<** "x = " **<<** x**;**  cout **<<** endl **<<** "y = " **<<** y**;**  //Let's swap the values of the variables x and y  //swap  int temp **=** x**;**  x **=** y**;**  y **=** temp**;**  //swap - values  x **=** 10**,** y **=** 20**;**  swapValue**(**x**,** y**);**  cout **<<** endl **<<** "After swapValue():"**;**  cout **<<** endl **<<** "x = " **<<** x**;** //10  cout **<<** endl **<<** "y = " **<<** y**;** //20    //swap - pointers  x **=** 10**,** y **=** 20**;**  swapPointer**(&**x**,** **&**y**);**  cout **<<** endl **<<** "After swapPointer():"**;**  cout **<<** endl **<<** "x = " **<<** x**;** //20  cout **<<** endl **<<** "y = " **<<** y**;** //10  //swap - references  x **=** 10**,** y **=** 20**;**  swapReference**(**x**,** y**);**  cout **<<** endl **<<** "After swapReference():"**;**  cout **<<** endl **<<** "x = " **<<** x**;** //20  cout **<<** endl **<<** "y = " **<<** y**;** //10  **}**  void swapValue**(**int a**,** int b**)** **{**  int temp **=** a**;**  a **=** b**;**  b **=** temp**;**  **}**  void swapPointer**(**int **\***pa**,** int **\***pb**)** **{**  int temp **=** **\***pa**;**  **\***pa **=** **\***pb**;**  **\***pb **=** temp**;**  **}**  void swapReference**(**int**&** a**,** int**&** b**)** **{**  int temp **=** a**;**  a **=** b**;**  b **=** temp**;**  **}** |