

C++ Programmirlleme sapaklary (<http://www.tmolympiad.org/>)

## **Nabelliler.**

Nabelliler - programmada bir zady yatda saklamak ucun ulanylyan yerler. Olara yuzlenmek ucun olaryn oz atlary bolyar. Atlaryny bilyan bolsan, olaryn yadyndaky zady okap yada uytgedip bilyarsin. We nabellilerin gornushleri bolyar. Kabirleri san saklap bilseler, kabirleri harp, kabirleri bolsa uzyn yazgy saklayarlar.

Nabellileri atlary manyly bolmaly. Meselem doglan\_yil nabellisini birinin doglan gunini saklamak ucun ulanyp bolyar. Olary oz icinde saklayan maglumady bolyar we maglumat onyn gornushine gora uytgeyar.

## **Nabellileri tanatmak**

C++ nabellileri ulanmak islesen olary basda tanatmaly. Ine senin adyn shu bolsyn we sen shuny yadynda sakla. Mana gerek wagty aydarsyn we islan wagty senin yadyndakyny uytgederin diyyan yaly. Biz olary maglumat saklamak ucun ulanyarys.

Onda name bashlaly, meselem:

2 sany nabelli tanadyaryn. Atlary doglan\_yil we shu\_yil. Men olaryn icinde san saklamak isleyarin. Tanatmak ucun int diyip yazyaryn we olaryn atlary. int bu yerde onyn gornushi, yagny san saklamak ucun.

```
int doglan_yil;  
int shu_yil;
```

Egerde men soz saklamak islesem,

```
int ady;
```

```
diyip yazamokda
```

```
string ady;
```

diyip yazyaryn. Sebabi string-ler soz saklamak ucun we int-de soz saklap bolmayar!

## **Bahalaryny uytgetmek**

Nabellinin bahasyny (icinde saklayan maglumadyny) uytgetmek islesen, onyn adyny yazyan, dendir belgisi goyyan we taze bermek isleyan maglumadyn.

Meselem,

```
shu_yil = 2006;
```

```
doglan_yil = 1989;
```

Shu wagt shu\_yil nabellisinin icinde 2006 saklanyar we doglan\_yil-in icinde 1989.

Yenede bir nabelli tanadaly we baha bereli.

```
int yas;
```

```
yas = shu_yil - doglan_yil;
```

Bu yerde yas diyip taze nabelli tanadyarys we onyn bahasyny shu\_yil - doglan\_yil goyyarys. Onyn

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bahasy 2006-1989=17 bolyar.

### **Nabellilerin bahasyny ekrana yazmak**

Gecen saqakdaky cout ulanmaly. Ansatjak.

Meselem,

```
cout << "Shu wagt " << shu_yil << "-nji yil!" << endl;
cout << "Sen " << doglan_yil << "-nji yilda dogulan bolsan, " << endl;
cout << yas << " yashynda bolmaly!" << endl;
```

Yokarky programma shuny yazyar:

Shu wagt 2006-nji yil!

Sen 1989-nji yilda dogulan bolsan,

17 yashynda bolmaly!

Koprak meselemler;

```
cout << "a=" << a << " b=" << b << endl;
cout << shu_yil << " ayirmak " << doglan_yil << " dendir " << yas << endl;
cout << "Sen indiki yil " << yas+1 << " yasynda bolarsyn!" << endl;
```

### **Nabellileri okamak**

cin diyip cout-yn tersi bar. Meselem sen doglan yylyny soramak islesen, sheyle etmeli:

```
cout << "Doglan yylyny aydayda gayrat etde?!" << endl;
cin >> doglan_yil;
cout << "Sag bol! Men hem " << doglan_yil << "-nji yilda dogylan caga." << endl;
cout << "Indi bolsa shu wagtgy yyly ayt men sana nace yashymdadygymy aydayin :) " << endl;
cin >> shu_yil;
cout << "Men " << shu_yil-doglan_yil << " yashymda!" << endl;
```

bir cin bilen kop sanysyny hem okamak mumkin,

Meselem:

```
cin >> a >> b >> c;
```

uc sany san a,b,c okayar

### **Nabellilerin beyleki gornushleri**

**int** – bitin sanlar ucun.

**double** – Hakyky sanlar ucun, (meselem, agyrlyk=44.50; bahasy=40.35; )

**char** – yekeje harplar ucun.

Meselem,

```
char harp = 'A';
```

```
harp = 'Z';
```

Belliker: "z" dalde 'z' ulanmaly, sebabi "z" soz yali kabul edilyar.

**string** – yazgy saklamak ucun.#include<string> ulanmaly.

Olary hem goshyp bolyar.

Meselem;

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```
string adym = "Atamyrat";  
string familiyam = "Hezretgulyev";  
string yazgy = "Menin adym " adym + ". Familiyam bolsa " + familiyam;  
cout << yazgy << endl;
```

### **Koprak meselemler:**

Bilmeli zatlar shujagaz. Owrenmek ucun bar etmeli zadynyz bizin programmalarymyzy okap dushunjek bolmak we ozuniz yazyp gormek.

1. Iki sany goshmak.

```
int a,b;  
cout << "2 sany san girsene kyn gormede " << endl;  
cin >> a >> b;  
int jemi;  
jemi = a+b;  
cout << a << "+" << b << "=" << jemi;
```

2.

[GARALAMA – DRAFT]

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