JAVA TILI YORDAMIDA OB'EKTGA YUNALTIRILGAN DASTURLASH ASOSLARI BILAN TANISHISH

Sharopova Muxayyo Muxtor qizi
Osiyo xalqaro universiteti
"Umumtexnik fanlar" kafedrasi o'qituvchisi
muxayyosharopova4@gmail.com

ANNOTATSIYA

Ushbu maqolada Java dasturlash tilining OYD ga oid masalalar ko'rilgan. Sinflar, vorislik, polimarfizm bilan tanishtirilgan. Java tilidagi funksiyalar bilan tanishtirilgan

Kalit so'zlar: *Ob'ekt ,Smaltalk,Sinf Surov Interfeys ,Meros kilib olish, polimorfizm*

KIRISH

Dasturli ta'minotni ishlab chikishda nima uchun ob'ektga – yunaltirilgan dasturlar (OYD) dinisi muhim bulib koldi? Gap shundaki, OYD dasturini ta'minlashni ishlab chikishda kulayrok, chunki uni kullashda ishlab chikish yarani tezrok va arzonrok buladi, model ishlab chikarish, dasturlash kulaylashadi. Bundan tashkari, kuchli ob'ektga – yunaltirilgan asboblarning borligi dasturini yotish yaranini tezlashtiradi. OYD – protsedurali dasturlashdan keyingi qadam. Ob'ektlar yordamida loyixalash jarayonlari yordamida loyixalashdan ancha soddarok, ayniksa yangidan kullash mumkin bulgan ob'ektlarni tuzatish kerak. Shuning uchun OYD da asosiy masala oldidan tuzilgan ob'ektlarni kullash.

Dasturlashning xamma tillari, vokelikni abstraktlashtirish vositalarini beradi. Aytish mumkinki, muammoni echish turiligi abstraktsiya va sifatga bog'liq. Ob'ektga yunaltirilgan yondoshuv echilgan masala modelini tugashda juda kulay, chunki biz

echilishayotgan yuk xar bir elementini «ob'ekt» sifatda kursatamiz. Xar bir ob'ektni, texnik kurilmalar va u boshqaradigan amallar tuplami sifatdagi, kichik kompyuterdek qarash mumkin. Lekin bu ob'ektlar, uz tafsiflar i va xulkiga unga bulgan, xakikiy dunyo ob'ektlariga uxshash.

Alan Kay ning 5 ta ***Smalltaly*** tafsifini berdi – birinchi muvaffaqiyatli ishlab chikilgan ob'ektga – yunaltirilgan dasturlash tillari va bu tillarning biriga JAVA tili asoslangan. Bu tafsiflar OYD ga «toza» yondoshuvni aks ettirish:

1) Xamma narsa ob'ekt – ob'ekt – bu ma'lumotlarni saqlab qo'yuvchi, ob'ektga tegishli surovlar yuborib, uzida saqlanayotgan ma'lumotlar ustida amallar bajara oladi;

2) Dastur – bu ma'lumotlar yordamida bir-biriga ta'sir etuvchi ob'ektlar to'plami. «ob'ektga ma'lumot yuborish» tushunchasi «surovni shu ob'ektga bajarish» tushunchasiga teng kuchli;

3) Xar bir ob'ekt boshka ob'ektlardan tashkil topgan bulib uz xotirasiga ega;

4) Xar bir ob'ekt uz tipiga ega;

5) Bir va shu tipdagi ob'ektlar bir xil ma'lumot qabul kiladi.

OYD da, ob'ekt tuzib, biz aslida ma'lumotlarning yangi tipini tuzamiz. OYD ning hamma tillarida yangi tiplar tugashda zaxiralangan **sinf** suzini qullaniladi. Tip va sinf suzlari uzaro almashinuvchi bulib, birining ikkichisi urnida kullanilishi mumkin.

Qanday kilish kerakki ob'ekt biz uchun foydali ish kilsin, biz surov topshirishga unga bulaylik, yuk, tranzaksiyani olib yoki ekranga figurani kerakmi? Xar bir ob'ekt cheklangan mikdordagi surovlarni kondirishi mumkin. Ob'ektning interfeysi orkali surovi aniklanadi. Interfeys – bu anik bir ob'ektga qanday surovlar kilish mumkinligini urnatuvchi koidalar.

* Ob'ekt : *Nur*

* Ob'ektni tutish : *Lampochka lp = new Lampochka();*

* Bu : *lp_vklyuchit();*

Tayyor ob'ektlarni kullashda yashirin ma'lumot .

Dasurlovchilarni shartli ikki guruhga ajoyib mumkin : sinflarni tuzuvchi va mijozlar qo'shimchasini tuzuvchi . Mijozlar dasturini tuzuvchilvr maqsadi – kerakli qo'shimchalarni tez ishlab chikish uchun hammasi kerak sinflarni Yigish . Sinflarni tuzuvchilar esa sinfni ishlab chikibda shunday kilishlari kerakki, ob'ektning kerak kismlardan foydalanish qilishi bulsin, kolganlari esa mijozlar qo'shimchasini tuzuvchilar uchun yashirilgan bulsin .

Yangidan tuzlangan sinflarni kullash .

Yangidan tuzlangan sinflarni kullashning eng oddiy usul – bu ob'ektning butun sinfi tulik kullash . Ammo bu sinf ob'ektini boshka yangi sinf ichida sinab ko'rish mumkin. Bu sinf a'zolarini tug'ish deb ataladi. Istilgan boshka sinflarni istilgan mikdorda kullab yangi sinflar tugash mumkin.

Meros kilib olish.

Tulik, funksiyalangan, ishlovchi yangi ob'ektni tug'ish – ancha keyin ish. Agar siz ob'ekt tuzayotgan bulsangiz, siz birinchi ob'ekt hosil kilish uchun kilgan ishlaringizni yangidan takrorlash kerak yangi yangidan keyinroq, shuning uchun ular orasida kup narsa umumiyy. Bunday xolda siz OYD ning sotib olishdan foyda olganingiz samara beradi. Kichik bir nokulayligi shundagi ota-onalik ob'ektini uzgarganda, bolalik ob'ektlarini bu uzgartirishlarni avtomat tarzda qiladi. Meros kilib olingan ob'ekt yangidan ota-onalik interfeysini kulladi. Bunda bolalik ob'ekti ota-onaning ba'zi uslublarini yangidan aniklashi mumkin. Shuningdek, aytish kerakki, ota-onalik va bolalik ob'ektlarining tipi bir xil buladi.

polimorfizm.

Meros kilib olish hosilida ob'ektlar oilasi buladi va ular uchun ota-onalik ob'ekti umumiy buladi. Meros kilib olishning muhim joyi shundaki, bolalik ob'ektlariga xuddi ota-onalik ob'ektlariga murojaat kilgandek murojaat kilishimiz. Bu juda muhim, chunki ota-onalik ob'ekti uchun bir bulak dastur yozishingiz mumkin, va bu dastur istilgan bolalik ob'ekti bilan xam ishladi. Bu shunday polimorfizm deyiladi.

Kichik bir qilla.

```
bekor qil Narsa ( shakl  s )
{
s.erase();
...
s.draw();
}
Circle c = new Circle();
Triangle t = new Triangle();
Line l = new Line();
doStuff(c);
doStuff(t);
do Stuff(l);
```

Yukorida keltirilgan misol polimorfizmning kullashini kursatadi. Aniklangan *doStuff* usuli hammasi uchala sinf *Doira, uchburchak* va *Chiziq* uchun xatosiz ishladi, chukni *Shakl* sinf bu sinflar uchun ota - ona.

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