

topics

- Jvm – compilation model
- Jvm – storage model
- Jvm – cloning shallow and deep copies
- Class hierarchies and inheritance
- Concept of signature
- Run time type information
- Generic types and casting
- Dynamic loading
- Nesting

topics

- Java io model
- Serial and random access
- Serialisation
- Character and binary files
- Makefiles
- Visitor paradigm
- Collections
- Multi-tasking

cloning

```
public Object clone()
{
    Q2 d=new Q2();
    d.a= a.clone();
    d.b=b.clone();
    for(int i=1;i<b.length;i++)
    if (b[i]!=null){
        d.b[i]=new Pair();
        d.b[i].x=b[i].x;
        d.b[i].y=b[i].y;
    }
}

d.c=(Vector)c.clone();
for(int i=1;i<c.size();i++)
if (b[i]!=null){
    d.c.set(i,c.elementAt(i).clone());
}
return d;
}
```