



STATE

Design Pattern





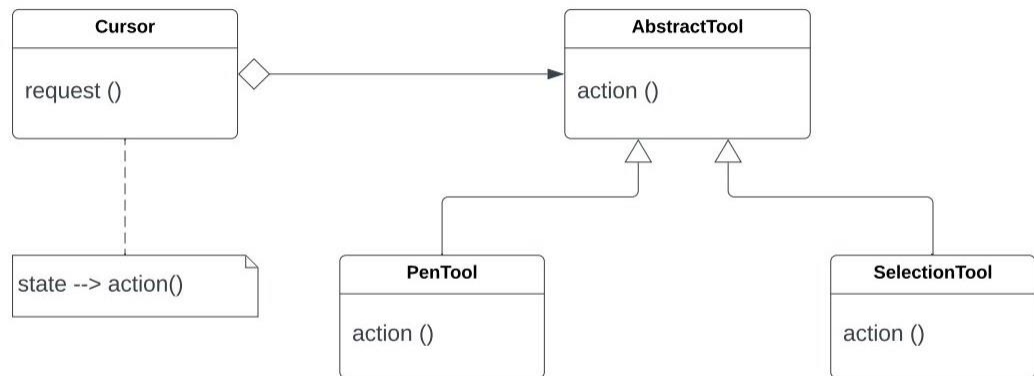
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Report

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Course Title: Software Design and Architecture

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Class Diagram:



Consider a drawing tool i.e., the Paint application. The Paint application has a mouse-cursor, which at any point in time can act as one of several tools, selection-Tool, Pen-Tool etc.

Source Code:

```
using System ;
namespace State
{
    public class Program
    {
        public static void Main(string[] args)
        {
            var context = new PaintApp(new PenTool());
            Console.ReadKey();
        }
    }
}

public abstract class MouseCursor
```

```

{
    public abstract void Handle(PaintApp context);
}

public class PenTool : MouseCursor
{
    public override void Handle(PaintApp context)
    {
        context.State = new PenTool();
    }
}

public class PaintApp
{
    MouseCursor state;

    public PaintApp(MouseCursor state)
    {
        this.State = state;
    }

    public MouseCursor State
    {
        get { return state; }
        set
        {
            state = value;

            Console.WriteLine("State: " + state.GetType().Name);
        }
    }

    public void Request()
    {
        state.Handle(this);
    }
}

```

```
}  
}  
}
```

Output:

Select C:\Users\ITS\source\repos\State\State\bin\Debug\State.exe

State: PenTool

