

Converter.java

```
package com.javaland.converter;

import com.javaland.converter.exception.ConversionException;

import java.io.File;
import java.io.FileNotFoundException;

public abstract class Converter {

    private byte[] input;

    public Converter(byte[] input) {
        this.input = input;
    }

    public Converter(File file) throws FileNotFoundException {
        //Read File and put in input array
    }

    public abstract byte[] doConvert() throws ConversionException;

    public enum Type {
        VIDEO, AUDIO, IMAGE
    }

    public enum CodecTypes {
        PNG, JPG, BMP, TIFF,
        H264, H265, MPEG2, WMV,
        MP3, AAC, A52
    }
}
```

BmpToJpgConverter.java

```
package com.javaland.converter.image;

import com.javaland.converter.Converter;
import com.javaland.converter.exception.ConversionException;

import java.io.File;
import java.io.FileNotFoundException;

public class BmpToJpgConverter extends Converter {
    public BmpToJpgConverter(File file) throws FileNotFoundException {
        super(file);
    }

    public BmpToJpgConverter(byte[] input) {
        super(input);
    }

    @Override
    public byte[] doConvert() throws ConversionException {
        return new byte[0];
    }
}
```

MediaConverterFactory.java

```
package com.javaland;

import com.javaland.converter.Converter;

import java.io.File;
import java.io.FileNotFoundException;

public interface MediaConverterFactory {

    Converter createConverter(File file, Converter.CodecTypes toType) throws FileNotFoundException;

}
```

ImageConverterFactory.java

```
package com.javaland.converter;
```

```

import com.javaland.MediaConverterFactory;
import com.javaland.converter.image.BmpToJpgConverter;

import java.io.File;
import java.io.FileNotFoundException;

public class ImageConverterFactory implements MediaConverterFactory {

    public Converter createConverter(File file, Converter.CodecTypes toImageType)
        throws FileNotFoundException {
        String name = file.getName().toLowerCase();
        if (name.endsWith(".bmp")) {
            switch (toImageType) {
                case JPG:
                    return new BmpToJpgConverter(file);
                    // AND MORE
            }
        }
        throw new IllegalArgumentException("No Converter Found");
    }
}

```

MediaConverterAbstractFactory.java

```

package com.javaland;

import com.javaland.converter.Converter;
import com.javaland.converter.ImageConverterFactory;
import com.javaland.converter.MusicConverterFactory;
import com.javaland.converter.VideoConverterFactory;

public interface MediaConverterAbstractFactory {

    static MediaConverterFactory createFactory(Converter.Type type) {
        switch (type) {
            case AUDIO:
                return new MusicConverterFactory();
            case VIDEO:
                return new VideoConverterFactory();
            case IMAGE:
                return new ImageConverterFactory();
        }
        throw new IllegalArgumentException("Wrong Converter Type");
    }
}

```

Main.java

```

package com.javaland;

import com.javaland.converter.Converter;
import com.javaland.converter.exception.ConversionException;

import java.io.File;
import java.io.FileNotFoundException;

public class Main {
    public static void main(String[] args) {
        MediaConverterFactory abstractFactory =
            MediaConverterAbstractFactory.createFactory(Converter.Type.IMAGE);
        try {
            Converter converter = abstractFactory.createConverter
                (new File("/home/hosein/pic1.bmp"),
                 Converter.CodecTypes.JPG);
            System.out.println(abstractFactory.getClass());
            System.out.println(converter.getClass());
            byte[] bytes = converter.doConvert();
        } catch (FileNotFoundException | ConversionException e) {
            e.printStackTrace();
        }
    }
}

```

