

# USEFUL LATEX TEMPLATE

CHEN SUN,

## 1 CODE BLOCK

Use Listings package.

---

```

\usepackage{listings}
\usepackage{color}

\definecolor{dkgreen}{rgb}{0,0.6,0}
\definecolor{gray}{rgb}{0.5,0.5,0.5}
\definecolor{mauve}{rgb}{0.58,0,0.82}

\lstset{frame=tb,
language=Java,
aboveskip=3mm,
belowskip=3mm,
showstringspaces=false,
columns=flexible,
basicstyle={\small\ttfamily},
numbers=none,
numberstyle=\tiny\color{gray},
keywordstyle=\color{blue},
commentstyle=\color{dkgreen},
stringstyle=\color{mauve},
breaklines=true,
breakatwhitespace=true,
tabsize=3
}

```

---

You can change default language in the middle of document with 'lstsetlanguage=Java'.

- Example: Booth Algorithm in Verilog:

---

```

module booth_multi (A, B, P, CLK, reset)

input [7:0] A, B;
input CLK, reset;
output reg [15:0] P;
reg [7:0] N;
reg [15:0] N_prime;
reg [8:0] A_prime;
integer i;

always @ (posedge CLK)
begin
if (~reset) begin
P <= 16'b0;
A_prime <= {A, 1'b0};
end
else begin
for (i = 0; i < 8; i = i + 1)

```

```
begin
if (A_prime[1:0] == 2'b 01)
N <= B;
if (A_prime[1:0] == 2'b 10)
N <= -B;
N_prime <= {N, 8'b 0};
P <= P + N_prime;
A_prime <= A_prime >>> 1;
P <= P >>> 1;
end
end
end
```

---

2 FIGURE AND TABLE