LAPLACE DÖNÜŞÜM TABLOSU	
Fonksiyon $f(t)$	**Laplace Dönüşümü** $F(s)=\mathscr{L}\{f(t)\}$
1	$\frac{1}{s}$ $\quad (s>0)$
t	$\frac{1}{s^2}$ $\quad (s>0)$
$t^k \quad (k \geq 0)$	$\frac{k!}{s^{k+1}}$ $\quad (s>0)$
$e^{\alpha.t}$	$\frac{1}{s-\alpha}$ $\quad (s>\alpha)$
$e^{-\alpha.t}$	$\frac{1}{s+\alpha}$
$Cos(\alpha.t)$	$\frac{s}{s^2+\alpha^2}$ $\quad (s>0)$
$Sin(\alpha.t)$	$\frac{\alpha}{s^2+\alpha^2}$ $\quad (s>0)$
$Cosh(\alpha.t)$	$\frac{s}{s^2-\alpha^2}$ $\quad (s>\|k\|)$
$Sinh(\alpha.t)$	$\frac{\alpha}{s^2-\alpha^2}$ $\quad (s>\|k\|)$
$t^k \quad (k>-1)$	$\frac{\Gamma(k+1)}{s^{k+1}}$ $\quad (s>0)$
$\frac{1}{\sqrt{t}}$	$\sqrt{\frac{\pi}{s}}$
$t.e^{-\alpha.t}$	$\frac{1}{(s+\alpha)^2}$
$t^k.e^{\alpha.t}$	$\frac{k!}{(s-\alpha)^{k+1}}$
$e^{-\alpha.t}.Cos(\beta.t)$	$\frac{s+\alpha}{(s+\alpha)^2+\beta^2}$
$e^{-\alpha.t}.Sin(\beta.t)$	$\frac{\beta}{(s+\alpha)^2+\beta^2}$
$e^{\alpha.t}.Cos(\beta.t)$	$\frac{s-\alpha}{(s-\alpha)^2+\beta^2}$
$e^{\alpha.t}.Sin(\beta.t)$	$\frac{\beta}{(s-\alpha)^2+\beta^2}$
$\frac{e^{\alpha.t}.Sinh(\beta.t)}{\beta}$	$\frac{1}{(s-\alpha)^2-\beta^2}$
$e^{\alpha.t}.Cosh(\beta.t)$	$\frac{s-\alpha}{(s-\alpha)^2-\beta^2}$

$t.Cos(\beta.t)$	$\dfrac{s^2-\beta^2}{\left(s^2+\beta^2\right)^2}$
$\dfrac{t.Sin(\beta.t)}{2\beta}$	$\dfrac{s}{\left(s^2+\beta^2\right)^2}$
$t.Cosh(\beta.t)$	$\dfrac{s^2+\beta^2}{\left(s^2-\beta^2\right)^2}$
$\dfrac{t.Sinh(\beta.t)}{2\beta}$	$\dfrac{s}{\left(s^2-\beta^2\right)^2}$
$Cos(\beta.t).Cosh(\beta.t)$	$\dfrac{s^3}{s^4+4\beta^4}$
$\dfrac{Sin(\beta.t).Sinh(\beta.t)}{2\beta^2}$	$\dfrac{s}{s^4+4\beta}$
$\dfrac{Sin(\beta.t)-\beta.t.Cos(\beta.t)}{2\beta^3}$	$\dfrac{1}{\left(s^2+\beta^2\right)^2}$
$\dfrac{t}{2\alpha}Sin(\alpha.t)$	$\dfrac{s}{\left(s^2+\alpha^2\right)^2}$
$\dfrac{1}{2\alpha}\left(Sin(\alpha.t)+\alpha.t.Cos(\alpha.t)\right)$	$\dfrac{s^2}{\left(s^2+\alpha^2\right)^2}$
$\dfrac{1}{2\alpha^3}\left(Sin(\alpha.t)-\alpha.t.Cos(\alpha.t)\right)$	$\dfrac{1}{\left(s^2+\alpha^2\right)^2}$

TERS LAPLACE DÖNÜŞÜM TABLOSU	
Fonksiyon $F(s)$	**Ters Laplace Dönüşümü** $f(t)=\mathscr{L}^{-1}\{F(s)\}$
$\frac{1}{s}$	1
$\frac{n!}{s^{n+1}}$	t^n
$\frac{1}{s-\alpha}$	$e^{\alpha.t}$
$\frac{1}{s+\alpha}$	$e^{-\alpha.t}$
$\frac{1}{(s-\alpha)^n}$	$\frac{t^{n-1}.e^{\alpha.t}}{(n-1)!}$
$\frac{s}{s^2+\alpha^2}$	$Cos(\alpha.t)$
$\frac{\alpha}{s^2+\alpha^2}$	$Sin(\alpha.t)$
$\frac{s}{s^2-\alpha^2}$	$Cosh(\alpha.t)$
$\frac{\alpha}{s^2-\alpha^2}$	$Sinh(\alpha.t)$
$\frac{1}{\sqrt{s}}$	$\frac{1}{\sqrt{\pi t}}$
$\frac{1}{s\sqrt{s}}$	$2\sqrt{\frac{t}{\pi}}$
$\frac{1}{(s-\alpha)(s-\beta)}$	$\frac{e^{\alpha.t}-e^{\beta.t}}{\alpha-\beta}$
$\frac{1}{(s-\alpha)(s-\beta)(s-\chi)}$	$\frac{(\beta-\chi)e^{\alpha.t}+(\chi-\alpha)e^{\beta.t}+(\alpha-\beta)e^{\chi.t}}{(\alpha-\beta)(\beta-\chi)(\chi-\alpha)}$

Özellik	Laplace dönüşümü	Ters Laplace dönüşümü
	$F(s)=\mathscr{L}\{f(t)\}$, $f(t)=\mathscr{L}^{-1}\{F(s)\}$	
Doğrusallık	$\mathscr{L}[\alpha_1.f_1(t)+\alpha_2.f_2(t)]=\alpha_1.F_1(s)+\alpha_2.F_2(s)$	$\mathscr{L}^{-1}\{\alpha_1.F_1(s)+\alpha_2.F_2(s)\}=\alpha_1.f_1(t)+\alpha_2.f_2(t)$
Zamanda öteleme	$f(t)=\begin{cases} f_1(t-\alpha) & , \quad t>\alpha \\ 0 & , \quad t<\alpha \end{cases}$ $L[f(t)]=e^{-\alpha}.F_1(s)$	$\mathscr{L}^{-1}\{e^{-\alpha.s}F(s)\}=\begin{cases} f(t-\alpha) & , \quad t>\alpha \\ 0 & , \quad t<\alpha \end{cases}$
s-domeninde öteleme	$\mathscr{L}[e^{\alpha.t}.f_1(t)]=F_1(s-\alpha)$	$\mathscr{L}^{-1}\{F(s-\alpha)\}=e^{\alpha.t}.f(t)$
Ölçekleme	$\mathscr{L}[f(\alpha.t)]=\frac{1}{\alpha}F\left(\frac{s}{\alpha}\right)$	$\mathscr{L}^{-1}\{F(\alpha.s)\}=\frac{1}{\alpha}.f\left(\frac{t}{\alpha}\right)$
t/s ile bölme	$\mathscr{L}\left[\frac{f(t)}{t}\right]=\int_s^{\infty}F(p).dp$	$\mathscr{L}^{-1}\left\{\frac{F(s)}{s}\right\}=\int_0^t f(v).dv$
t^k/s ile çarpma	$\mathscr{L}[t^k.f(t)]=(-1)^k\frac{d^k}{ds^k}F(s)$	$\mathscr{L}^{-1}\{s.F(s)\}=f'(t)$
Türev	$\mathscr{L}\{f^{(k)}(t)\}=s^k.F(s)-s^{k-1}.f(0)-s^{k-2}.f'(0)-...$	$\mathscr{L}^{-1}\{F^{(k)}(s)\}=(-1)^k.t^k.f(t)$
İntegral	$\mathscr{L}\left\{\int_0^t f(p).dp\right\}=\frac{F(s)}{s}$	$\mathscr{L}^{-1}\left\{\int_s^{\infty}F(v).dv\right\}=\frac{f(t)}{t}$
Konvolüsyon	$\mathscr{L}\{f_1(t)*f_2(t)\}=F_1(s).F_2(s)$	$\mathscr{L}^{-1}\{F_1(s)*F_2(s)\}=\int_0^t f_1(v).f_2(t-v).dv$