Please write an outline of the main contents of the lecture.

- Area under curve of f(x) = definite integral
- Treat upper bound as variable, we have another function $F(x) = \int_a^x f(t)\,dt$
- Fundamental Thm of calculus:
  derivative of F(x) is f(x)
- Integral is anti derivative
- Connect differential and integral calc.
- Can copy function inside integral if taking derivative of the integral

5/15 Search/Summary.

Tiam.

Group 1.

A	B	C
K	5	1.

Please write an outline of the main contents of the lecture.

- Uniform dist has 2 params : upper & lower bnds.
- equally likely between bounds
- Normalization is $\frac{1}{\text{upper} - \text{lower}}$
- Expectation $\frac{b+a}{2}$, Var $\frac{(b-a)^2}{12}$
- Moment generating fxn $\frac{e^{@t} - e^{@t}}{(b-a)\,t}$ (upper, lower)
- below lower bound pdf = 0
  & upper
- CDF is ramp betw lower CDF = 0
  ↳ after upper bnd CDF = 1

Please write an outline of the main contents of the lecture.

- Euler's formular to prove trig identity.
- $e^{ix} = \cos x + i\sin x$, $e^{-ix} = \cos x - i\sin x$
- $e^{ix} \cdot e^{-ix} = 1 = (\cos x + i\sin x)(\cos x - i\sin x)$

  $= \cos^2 + i^2(-\sin x)\sin x = \cos^2 + \sin^2 x$
- $e^{ia} \cdot e^{ib} = e^{i(a+b)} = \cos(a+b) + i\sin(a+b)$

  $= (\cos a + i\sin a)(\cos b + i\sin b)$

  $= (\cos a \cos b + i^2 \sin a \sin b) + i(\sin a\cos b + \sin b\cos a)$

  $= \cos(a+b)$ $\sin(a+b)$
- $\cos 2x = \cos(x+x)$
- $\sin 2x = \sin(x+x)$