Individual task 4

Fredholm integral equations. Part III

Case 1

1. Find the iterated kernels with given values a and b for kernels:
   1.1. $K(x,s) = x - s;$ $a = -1, b = 1.$
   1.2. $K(x,s) = \sin(x - s);$ $a = 0, b = \frac{\pi}{2}$ $(n = 2,3).$
2. Build resolvent using iterated kernels for kernels:
   2.1. $K(x,s) = e^{x+s};$ $a = 0, b = 1.$
   2.2. $K(x,s) = \sin x \cos s;$ $a = 0, b = \frac{\pi}{2}.$

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Fredholm integral equations. Part III

Case 2

1. Find the iterated kernels with given values a and b for kernels:
   1.1. $K(x,s) = (x - s)^2;$ $a = -1, b = 1$ $(n = 2,3).$
   1.2. $K(x,s) = x + \sin s;$ $a = -\pi, b = \pi.$
2. Build resolvent using iterated kernels for kernels:
   2.1. $K(x,s) = x \cdot e^s;$ $a = -1, b = 1.$
   2.2. $K(x,s) = (1 + x)(1 - s);$ $a = -1, b = 0.$

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Fredholm integral equations. Part III

Case 3

1. Find the iterated kernels with given values a and b for kernels:
   1.1. $K(x,s) = x\, e^s;$ $a = 0, b = 1.$
   1.2. $K(x,s) = e^x \cos s;$ $a = 0, b = \pi.$
2. Build resolvent using iterated kernels for kernels:
   2.1. $K(x,s) = x^2 s^2;$ $a = -1, b = 1.$
   2.2. $K(x,s) = (x \cdot s - s);$ $a = 0, b = 1.$

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Fredholm integral equations. Part III

Case 4

1. Find the iterated kernels with given values a and b for kernels:
   1.1. $K(x,s) = x - s;$ $a = -1, b = 1.$
   1.2. $K(x,s) = e^x \cos s;$ $a = 0, b = \pi.$
2. Build resolvent using iterated kernels for kernels:
   2.1. $K(x,s) = \sin x \cos s + \cos 2x \sin 2s;$ $a = 0, b = 2\pi.$
   2.2. $K(x,s) = 1 + (2x - 1) \cdot (2s - 1);$ $a = 0, b = 1.$

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Fredholm integral equations. Part III

Case 5

1. Find the iterated kernels with given values a and b for kernels:
   1.1. $K(x,s) = \frac{x}{1+s^2}$ $a = 0, b = 1.$
   1.2. $K(x,s) = x\, e^s;$ $a = 0, b = 1.$
2. Build resolvent using iterated kernels for kernels:
   2.1. $K(x,s) = e^{x+s};$ $a = 0, b = 1.$
   2.2. $K(x,s) = 1 + (2x - 1) \cdot (2s - 1);$ $a = 0, b = 1.$

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Fredholm integral equations. Part III

Case 6

1. Find the iterated kernels with given values a and b for kernels:
   1.1. $K(x,s) = \sin(x-s)$; $a = 0, b = \frac{\pi}{2}$ $(n = 2,3)$.
   1.2. $K(x,s) = x\,e^{s}$; $a = 0, b = 1$.
2. Build resolvent using iterated kernels for kernels:
   1.1. $K(x,s) = e^{x+s}$; $a = 0, b = 1$.
   1.2. $K(x,s) = x \cdot s$; $a = 0, b = 1$.

Individual task 4

Fredholm integral equations. Part III

Case 7

1. Find the iterated kernels with given values a and b for kernels:
   1.1. $K(x,s) = (x-s)^2$; $a = -1, b = 1$ $(n = 2,3)$.
   1.2. $K(x,s) = x \sin s$; $a = 0, b = \pi$.
2. Build resolvent using iterated kernels for kernels:
   2.1. $K(x,s) = \sin x \cos s$; $a = 0, b = \frac{\pi}{2}$.
   2.2. $K(x,s) = x \cdot e^{x-s}$; $a = 0, b = 1$.

Individual task 4

Fredholm integral equations. Part III

Case 8

1. Find the iterated kernels with given values a and b for kernels:
   1.1. $K(x,s) = x - s$; $a = -1, b = 1$.
   1.2. $K(x,s) = e^{x} \cos s$; $a = 0, b = \pi$.
2. Build resolvent using iterated kernels for kernels:
   2.1. $K(x,s) = (1+x)(1-s)$; $a = -1, b = 0$.
   2.2. $K(x,s) = x \cdot e^{s}$; $a = -1, b = 1$.

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Fredholm integral equations. Part III

Case 9

1. Find the iterated kernels with given values a and b for kernels:
   1.1. $K(x,s) = \sin(x-s)$; $a = 0, b = \frac{\pi}{2}$ $(n = 2,3)$.
   1.2. $K(x,s) = x + \sin s$; $a = -\pi, b = \pi$.
2. Build resolvent using iterated kernels for kernels:
   2.1. $K(x,s) = (1+x)(1-s)$; $a = -1, b = 0$.
   2.2. $K(x,s) = 1 + (2x-1) \cdot (2s-1)$; $a = 0, b = 1$.

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Fredholm integral equations. Part III

Case 10

1. Find the iterated kernels with given values a and b for kernels:
   1.1. $K(x,s) = \sin x \cos s + \cos 2x \sin 2s$; $a = 0, b = 2\pi$ $(n = 2,3)$.
   1.2. $K(x,s) = x^2 s^2$; $a = -1, b = 1$.
2. Build resolvent using iterated kernels for kernels:
   2.1. $K(x,s) = (1+x)(1-s)$; $a = -1, b = 0$.
   2.2. $K(x,s) = 1 + (2x-1) \cdot (2s-1)$; $a = 0, b = 1$.

Individual task 4

Fredholm integral equations. Part III

Case 11

1. Find the iterated kernels with given values a and b for kernels:
   1.1. $K(x,s) = x - s;$ $a = -1, b = 1.$
   1.2. $K(x,s) = x + \sin s\,;$ $a = -\pi, b = \pi.$
2. Build resolvent using iterated kernels for kernels:
   2.1. $K(x,s) = (1+x)(1-s);$ $a = -1, b = 0.$
   2.2. $K(x,s) = \sin x \cos s + \cos 2x \sin 2s\,;$ $a = 0, b = 2\pi.$

Individual task 4

Fredholm integral equations. Part III

Case 12

1. Find the iterated kernels with given values a and b for kernels:
   1.1. $K(x,s) = \sin(x+s)\,;$ $a = -\frac{\pi}{2}, b = 0 \quad (n = 2,3).$
   1.2. $K(x,s) = x + \sin s\,;$ $a = -\pi, b = \pi.$
2. Build resolvent using iterated kernels for kernels:
   2.1. $K(x,s) = \sin x \cos s;$ $a = 0, b = \frac{\pi}{2}.$
   2.2. $K(x,s) = (1+x)(1-s);$ $a = -1, b = 0.$

Individual task 4

Fredholm integral equations. Part III

Case 13

1. Find the iterated kernels with given values a and b for kernels:
   1.1. $K(x,s) = (x-s)^2;$ $a = -1, b = 1$ $(n = 2,3).$
   1.2. $K(x,s) = x \sin s;$ $a = 0, b = \pi.$
2. Build resolvent using iterated kernels for kernels:
   2.3. $K(x,s) = \sin x \cos s;$ $a = 0, b = \frac{\pi}{2}.$
   2.4. $K(x,s) = x \cdot e^{x-s};$ $a = 0, b = 1.$