```
> 
> with(student):
> f:=x->sin(x)*exp(x);
```

$$f := x \rightarrow \sin(x)\, \mathbf{e}^x$$

```
> I1:=Int(f(x),x);
```

$$I1 := \int \sin(x)\, \mathbf{e}^x \, dx$$

```
> R1:=intparts(I1,sin(x));
```

$$R1 := \sin(x)\, \mathbf{e}^x - \int \cos(x)\, \mathbf{e}^x \, dx$$

```
> R2:=intparts(I1,exp(x));
```

$$R2 := -\cos(x)\, \mathbf{e}^x - \int -\cos(x)\, \mathbf{e}^x \, dx$$

```
> I2:=(R1+R2)/2;
> 
```

$$I2 := \frac{1}{2}\sin(x)\, \mathbf{e}^x - \frac{1}{2}\int \cos(x)\, \mathbf{e}^x \, dx - \frac{1}{2}\cos(x)\, \mathbf{e}^x - \frac{1}{2}\int -\cos(x)\, \mathbf{e}^x \, dx$$

```
> I3:=simplify(I2);
```

$$I3 := \frac{1}{2}\mathbf{e}^x \left(\sin(x) - \cos(x) \right)$$

```
> 
> 
> 
> Credit:= "I&C, p. 118" ;
```

$$Credit := \text{"I\&C, p. 118"}$$

```
> 
```