In[87]:=
```
d[x_] := (x ^ 2) / (x ^ 2 + x ^ 4)
a = 1.0;
b = 2.0;
Ap = ((b - a) / 2) * (f (a) + f[b])
Exacti = N[Integrate[d[x], {x, 1, 2}]]
Abserr = Abs[Ap - Exacti]
```

Out[90]=
```
{0.5 (3. + {3, 5, 7}[2.]), 0.5 (5. + {3, 5, 7}[2.]), 0.5 (7. + {3, 5, 7}[2.])}
```

Out[91]=
```
0.321751
```

Out[92]=
```
{Abs[-0.321751 + 0.5 (3. + {3, 5, 7}[2.])],
 Abs[-0.321751 + 0.5 (5. + {3, 5, 7}[2.])], Abs[-0.321751 + 0.5 (7. + {3, 5, 7}[2.])]}
```

```
(*composite trap *)
```

In[93]:=
```
d[x_] := (x ^ 2) / (1 + x + x ^ 3)
a = 1.0;
b = 2.0;
n = 20;
h = (b - a) / n;
ap = h / 2 * (f (a) + 2 * Sum[f[a + i * h] + f[b], {i, 1, n - 1}])
exacti = N[Integrate[d[x], {x, 1, 2}]]
abserr = abs[ap - exacti]
```

Out[98]=
```
{0.025
   (3. + 2 ({3, 5, 7}[1.05] + {3, 5, 7}[1.1] + {3, 5, 7}[1.15] + {3, 5, 7}[1.2] + {3, 5, 7}[1.25] + {3, 5, 7}[
          1.3] + {3, 5, 7}[1.35] + {3, 5, 7}[1.4] + {3, 5, 7}[1.45] + {3, 5, 7}[1.5] +
        {3, 5, 7}[1.55] + {3, 5, 7}[1.6] + {3, 5, 7}[1.65] + {3, 5, 7}[1.7] + {3, 5, 7}[1.75] +
        {3, 5, 7}[1.8] + {3, 5, 7}[1.85] + {3, 5, 7}[1.9] + {3, 5, 7}[1.95] + 19 {3, 5, 7}[2.])),
  0.025 (5. + 2 ({3, 5, 7}[1.05] + {3, 5, 7}[1.1] + {3, 5, 7}[1.15] + {3, 5, 7}[1.2] + {3, 5, 7}[1.25] +
        {3, 5, 7}[1.3] + {3, 5, 7}[1.35] + {3, 5, 7}[1.4] + {3, 5, 7}[1.45] + {3, 5, 7}[1.5] +
        {3, 5, 7}[1.55] + {3, 5, 7}[1.6] + {3, 5, 7}[1.65] + {3, 5, 7}[1.7] + {3, 5, 7}[1.75] +
        {3, 5, 7}[1.8] + {3, 5, 7}[1.85] + {3, 5, 7}[1.9] + {3, 5, 7}[1.95] + 19 {3, 5, 7}[2.])),
  0.025 (7. + 2 ({3, 5, 7}[1.05] + {3, 5, 7}[1.1] + {3, 5, 7}[1.15] + {3, 5, 7}[1.2] + {3, 5, 7}[1.25] +
        {3, 5, 7}[1.3] + {3, 5, 7}[1.35] + {3, 5, 7}[1.4] + {3, 5, 7}[1.45] + {3, 5, 7}[1.5] +
        {3, 5, 7}[1.55] + {3, 5, 7}[1.6] + {3, 5, 7}[1.65] + {3, 5, 7}[1.7] + {3, 5, 7}[1.75] +
        {3, 5, 7}[1.8] + {3, 5, 7}[1.85] + {3, 5, 7}[1.9] + {3, 5, 7}[1.95] + 19 {3, 5, 7}[2.]))}
```

Out[99]=
```
0.371716 + 0. i
```

Out[100]=

```
abs[{(-0.371716 + 0. i) +
    0.025 (3. + 2 ({3, 5, 7}[1.05] + {3, 5, 7}[1.1] + {3, 5, 7}[1.15] + {3, 5, 7}[1.2] + {3, 5, 7}[1.25] +
          {3, 5, 7}[1.3] + {3, 5, 7}[1.35] + {3, 5, 7}[1.4] + {3, 5, 7}[1.45] + {3, 5, 7}[1.5] +
          {3, 5, 7}[1.55] + {3, 5, 7}[1.6] + {3, 5, 7}[1.65] + {3, 5, 7}[1.7] + {3, 5, 7}[1.75] +
          {3, 5, 7}[1.8] + {3, 5, 7}[1.85] + {3, 5, 7}[1.9] + {3, 5, 7}[1.95] + 19 {3, 5, 7}[2.])),
  (-0.371716 + 0. i) + 0.025 (5. + 2 ({3, 5, 7}[1.05] + {3, 5, 7}[1.1] + {3, 5, 7}[1.15] +
          {3, 5, 7}[1.2] + {3, 5, 7}[1.25] + {3, 5, 7}[1.3] + {3, 5, 7}[1.35] +
          {3, 5, 7}[1.4] + {3, 5, 7}[1.45] + {3, 5, 7}[1.5] + {3, 5, 7}[1.55] + {3, 5, 7}[1.6] +
          {3, 5, 7}[1.65] + {3, 5, 7}[1.7] + {3, 5, 7}[1.75] + {3, 5, 7}[1.8] + {3, 5, 7}[1.85] +
          {3, 5, 7}[1.9] + {3, 5, 7}[1.95] + 19 {3, 5, 7}[2.])), (-0.371716 + 0. i) +
    0.025 (7. + 2 ({3, 5, 7}[1.05] + {3, 5, 7}[1.1] + {3, 5, 7}[1.15] + {3, 5, 7}[1.2] + {3, 5, 7}[1.25] +
          {3, 5, 7}[1.3] + {3, 5, 7}[1.35] + {3, 5, 7}[1.4] + {3, 5, 7}[1.45] + {3, 5, 7}[1.5] +
          {3, 5, 7}[1.55] + {3, 5, 7}[1.6] + {3, 5, 7}[1.65] + {3, 5, 7}[1.7] + {3, 5, 7}[1.75] +
          {3, 5, 7}[1.8] + {3, 5, 7}[1.85] + {3, 5, 7}[1.9] + {3, 5, 7}[1.95] + 19 {3, 5, 7}[2.]))}]
```