```
(* Simulate equipartition for the number e at levels 1 and 2 *)
```

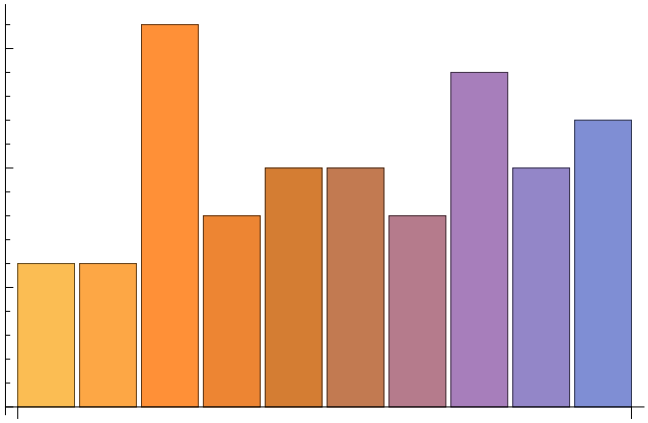
In[556]:=
```
(* Decimal expansion of e, small *)
e = RealDigits[E, 10, 50]; (* number, base, length of digits *)
smallE = e[[1]];
f[n_] := N[ Sum[If[{smallE[[k]]} == {n}, 1, 0], {k, 1, Length[smallE]}] / (Length[smallE])]
equipartition = {};
```

In[560]:=
```
For[i = 0, i < 10, i++, AppendTo[equipartition, f[i]];];
equipartition
```

Out[561]= {0.06, 0.06, 0.16, 0.08, 0.1, 0.1, 0.08, 0.14, 0.1, 0.12}

In[562]:=
```
BarChart[{equipartition}]
```

Out[562]=



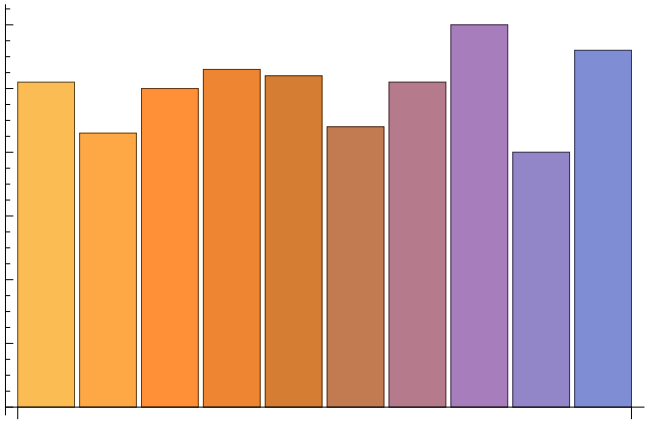
In[587]:=
```
(* Decimal expansion of e, medium *)
e = RealDigits[E, 10, 500];
mediumE = e[[1]];
f[n_] := N[ Sum[If[{mediumE[[k]]} == {n}, 1, 0], {k, 1, Length[mediumE]}] / (Length[mediumE])]
equipartionMedium = {}
For[i = 0, i < 10, i++, AppendTo[equipartionMedium, f[i]];];
equipartionMedium
```

Out[590]= { }

Out[592]= {0.102, 0.086, 0.1, 0.106, 0.104, 0.088, 0.102, 0.12, 0.08, 0.112}

In[593]:=
```
BarChart[{equipartionMedium}]
```

Out[593]=



In[595]:=
```
(* Decimal expansion of e, large *)
e = RealDigits[E, 10, 5000];
largeE = e[[1]];
f[n_] := N[ Sum_{k=1}^{Length[largeE]} If[{largeE[[k]]} == {n}, 1, 0] / (Length[largeE]) ]
```

In[598]:=
```
equipartitionLarge = {}
For[i = 0, i < 10, i++, AppendTo[equipartitionLarge, f[i]];];
equipartitionLarge
```

Out[598]= { }

Out[600]= {0.0994, 0.0956, 0.0986, 0.1028, 0.094, 0.0956, 0.109, 0.105, 0.1016, 0.0984}

In[601]:=
```
BarChart[{equipartitionLarge}]
```

Out[601]=