```
import Orange


##Discretization
brown = Orange.data.Table("brown-selected.tab")
disc = Orange.preprocess.Discretize()
disc.method = Orange.preprocess.discretize.EqualFreq(n=3)
d_brown = disc(brown)

print("Original dataset:")
for e in brown[:3]:
    print(e)

print("Discretized dataset:")
for e in d_brown[:3]:
    print(e)
```

```
Original dataset:
[?, -0.023, 0.057, 0.007, 0.018, -0.057, 0.009, -0.034, -0.016, -0.046, 0.060, -0.007
[-0.031, -0.031, -0.060, 0.037, -0.071, -0.018, -0.026, -0.052, 0.018, 0.052, 0.055,
[-0.013, ?, 0.067, -0.025, 0.017, 0.008, -0.042, 0.013, 0.111, 0.015, 0.140, 0.065, -
Discretized dataset:
[?, -0.04150 - -0.00550, ≥ 0, -0.02950 - 0.0075, ≥ -0.00650, < -0.04050, -0.020 - 0.0
[< -0.01550, -0.04150 - -0.00550, < -0.029, ≥ 0.0075, < -0.03950, -0.04050 - -0.00150
[-0.01550 - 0.0155, ?, ≥ 0, -0.02950 - 0.0075, ≥ -0.00650, ≥ -0.00150, < -0.020, -0.0
/usr/local/lib/python3.7/dist-packages/psycopg2/__init__.py:144: UserWarning: The psy
  """)
```

```
#Continuization
titanic = Orange.data.Table("titanic")
continuizer = Orange.preprocess.Continuize()
titanic1 = continuizer(titanic)

print("Before Continuization:\n",titanic.domain)
print("After Continuization:\n",titanic1.domain)


#Look at specific data of row 10 in the table before and after continuization
print("10th row data before: ",titanic[10])
print("10th row data after: ",titanic1[10])
```

```
Before Continuization:
 [status, age, sex | survived]
After Continuization:
 [status=crew, status=first, status=second, status=third, age=adult, age=child, sex=f
10th row data before:  [first, adult, male | yes]
10th row data after:  [0, 1, 0, 0, 1, 0, 0, 1 | yes]
```

```
#Normalization
from Orange.preprocess import Normalize
normalizer = Normalize(norm_type=Normalize.NormalizeBySpan)
normalized_data = normalizer(brown)
print("Before Normalization: ",brown[2])
```

```
print("After noramlization: ",normalized_data[2])
```

```
Before Normalization:  [-0.013, ?, 0.067, -0.025, 0.017, 0.008, -0.042, 0.013, 0.111,
After noramlization:  [0.41061, ?, 0.71479, 0.46689, 0.78623, 0.66790, 0.33679, 0.603
```

```
#Randomization
from Orange.preprocess import Randomize
randomizer = Randomize(Randomize.RandomizeClasses)
randomized_data = randomizer(brown)
print("Before Randomization: ",brown[2])
print("After Randomization: ",randomized_data[2])
```

```
Before Randomization:  [-0.013, ?, 0.067, -0.025, 0.017, 0.008, -0.042, 0.013, 0.111,
After Randomization:  [-0.013, ?, 0.067, -0.025, 0.017, 0.008, -0.042, 0.013, 0.111,
```

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