
POWERING
POTENTIAL
Reading data
from databases

Read Rows

```
import pyodbc

connectionString = r'DRIVER={ODBC Driver 13 for SQL
Server};SERVER=.\SQLExpress;DATABASE=northwind;Trusted_Connection=yes'

sqlStr = " SELECT * FROM customers"

conn = pyodbc.connect(connectionString)
cur = conn.cursor()
result = cur.execute(sqlStr).fetchall()
conn.close()

for row in result:
    print(row)
```

Connection string has information about the drivers for accessing a database (Here is ODBC – Open Database Connection) , Server name, database name and user authentication credentials (here is the same credential as the person logged on Windows).
sqlStr is any valid statement returning a set of rows.
The cursor (current set of records) is an area in memory dedicated to storing the resultset.
After executing the execute() method, the fetchall() method extracts all the rows.
The for loop reads every line and prints the row as raw data which is a simple list.
Therefore row[0] is the first coloum data and row[1] is the second column and so on.

Read Rows with filter

```
import pyodbc
connectionString = r'DRIVER={ODBC Driver 13 for SQL
Server};SERVER=.\SQLExpress;DATABASE=northwind;Trusted_Connection=yes'

sqlStr = "SELECT * FROM customers WHERE city='London'"

conn = pyodbc.connect(connectionString)
cur = conn.cursor()
result = cur.execute(sqlStr).fetchall()
conn.close()

for row in result:
    print(row)
```

Read Rows sorted

```
import pyodbc
connectionString = r'DRIVER={ODBC Driver 13 for SQL
Server};SERVER=.\SQLExpress;DATABASE=northwind;Trusted_Connection=yes'

sqlStr = "SELECT * FROM customers ORDER BY contactName"

conn = pyodbc.connect(connectionString)
cur = conn.cursor()
result = cur.execute(sqlStr).fetchall()
conn.close()

for row in result:
    print(row)
```

Read Rows - sorted and filtered

```
import pyodbc
connectionString = r'DRIVER={ODBC Driver 13 for SQL
Server};SERVER=.\SQLExpress;DATABASE=northwind;Trusted_Connection=yes'

sqlStr = """SELECT * FROM company
WHERE county='Devon'
ORDER BY company_no"""

conn = pyodbc.connect(connectionString)
cur = conn.cursor()
result = cur.execute(sqlStr).fetchall()
conn.close()

for row in result:
    print(row)
```

Better use Functions

```
import pyodbc

connectionString = r'DRIVER={ODBC Driver 13 for SQL
Server};SERVER=.\SQLExpress;DATABASE=northwind;Trusted_Connection=yes'

def readData(sql):
    conn = pyodbc.connect(connectionString)
    cur = conn.cursor()
    result = cur.execute(sql).fetchall()
    conn.close()
    return result

#------------------Main code ---------------------
res =  readData("SELECT * FROM company WHERE  county='Devon' ")
for row in res:
    print(row)
```

Any Questions?

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Thank you