

Python 研修演習

(解答サンプル)

REST サービスプログラム

```
import tkinter as tk
from random import choice
from urllib.request import urlopen
from urllib.parse import urlencode
import json

class MyFrame(tk.Frame):
    def __init__(self, master, server, port):
        super().__init__(master)
        self.server = server
        self.port = port
        self.lstr1 = tk.StringVar()
        self.lstr2 = tk.StringVar()
        self.lstr1.set('あなたの生年月日を入力してください')
        self.tstr = tk.StringVar()
        l1 = tk.Label(master, textvariable=self.lstr1).pack()
        l2 = tk.Label(master, textvariable=self.lstr2).pack()
        t = tk.Entry(master, textvariable=self.tstr).pack(side=tk.LEFT)
        b = tk.Button(master, text = '送信'
                      , command=self.sendMessage).pack(side=tk.LEFT)
        self.pack()

    def sendMessage(self):
        birthday = self.tstr.get()
        params = {'birth': birthday}
        enc_params = urlencode(params).encode('utf-8')
        urlstr = 'http://{0}:{1}/service'.format(self.server, self.port)
        with urlopen(urlstr, enc_params) as res:
            data = json.loads(res.read().decode('utf-8'))
            self.lstr1.set('生まれてから{days}日経過しています'.format(**data))
            self.lstr2.set('今日の運勢は{fortune}です'.format(**data))

if __name__ == '__main__':
    root = tk.Tk()
    mf = MyFrame(root, '192.168.1.1', 5000)
    mf.mainloop()
```

クライアントプログラム

```
from flask import Flask,request,jsonify
from datetime import date
from random import choice

app = Flask(__name__)
app.config['JSON_AS_ASCII'] = False

@app.route('/')
def indes():
    return 'Hello'

@app.route('/service',methods=['POST'])
def service():
    b_str = request.form['birth']
    b = [int(i) for i in b_str.split('/')]
    bdate = date(b[0],b[1],b[2])
    days = (date.today() - bdate).days
    fortune = ['大吉','中吉','小吉','吉','凶']
    ret_data = {'days':days,'fortune':choice(fortune)}
    return jsonify(ret_data)

if __name__ == '__main__':
    app.run(host='0.0.0.0')
```