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import redis

client = redis.Redis(host='localhost', port=6379)

def Nav():
    print("+" + "-" * 8 + "+" + "-" * 35 + "+" + "-" * 16 + "+")
    print("|  ITEM  |" + " " * 12 + "DESCRIPTION" + " " * 12 + "|" + " " * 16 + "+")
    print("STATUS |")
    print("+" + "-" * 8 + "+" + "-" * 35 + "+" + "-" * 16 + "+")
    print("|  1  |" + " " * 1 + "Showing 1-100 that contains Fizz" + " " * 16 + "+")
    print("2 + |" + " " * 1 + "Not started |")
    print("|  |" + " " * 1 + "Buzz ,FizzBuzz mixed" + " " * 14 + "|" + " " * 16 + "+")
    print("+" + "-" * 8 + "+" + "-" * 35 + "+" + "-" * 16 + "+")
    print("|  2  |" + " " * 1 + "Consider it's a leap year or not " + " " * 16 + "+")
    print("3 + |" + " " * 1 + "Not started |")
    print("+" + "-" * 8 + "+" + "-" * 35 + "+" + "-" * 16 + "+")
    print("|  3  |" + " " * 1 + "Show * in many ways" + " " * 15 + "|" + " " * 16 + "+")
    print("Not started |")
    print("|  3.1 |" + " " * 4 + "Format 1 " + " " * 22 + "|" + " " * 16 + "+")
    print("started |")
    print("|  3.2 |" + " " * 4 + "Format 2 " + " " * 22 + "|" + " " * 16 + "+")
    print("started |")
    print("|  3.3 |" + " " * 4 + "Format 3 " + " " * 22 + "|" + " " * 16 + "+")
    print("started |")
    print("|  3.4 |" + " " * 4 + "Format 4 " + " " * 22 + "|" + " " * 16 + "+")
    print("started |")
    print("|  3.5 |" + " " * 4 + "Format 5 " + " " * 22 + "|" + " " * 16 + "+")
    print("started |")
    print("|  3.6 |" + " " * 4 + "Format 6 " + " " * 22 + "|" + " " * 16 + "+")
    print("started |")
    print("+" + "-" * 8 + "+" + "-" * 35 + "+" + "-" * 16 + "+")
    print("|  4  |" + " " * 1 + "Difference else and finally " + " " * 15 + "|" + " " * 16 + "+")
    print("5 + |" + " " * 1 + "Not started |")
    print("+" + "-" * 8 + "+" + "-" * 35 + "+" + "-" * 16 + "+")
    print("|  5  |" + " " * 1 + "Medium 1. finds all prime numbers " + " " * 15 + "|" + " " * 16 + "+")
    print("6 + |" + " " * 1 + "Not started |")
    print("+" + "-" * 8 + "+" + "-" * 35 + "+" + "-" * 16 + "+")
    print()
    print("***Enter number to select item or entering a blank to end program***")

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Nav()

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def item1():
    ListOfNumber = list(range(1, 101))
    for i in range(1, 101):
        if i % 3 == 0 and not i % 5 == 0:
            ListOfNumber[i - 1] = "Fizz"
        elif i % 5 == 0 and not i % 3 == 0:
            ListOfNumber[i - 1] = "Buzz"
        elif i % 3 == 0 and i % 5 == 0:
            ListOfNumber[i - 1] = "FizzBuzz"
    print(*ListOfNumber)

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def item2(year):
    status = []
    if year % 400 == 0:
        status = True
    elif year % 400 != 0 and year % 100 != 0 and year % 4 == 0:
        status = True
    else:
        status = False
    print(str(year) + " is leap year -> " + str(status))

def item3_1(Number):
    for i in range(1, Number + 1):
        print('*' * i)

def item3_2(Number):
    for i in range(1, Number + 1):
        print(' ' * (Number - i) + '*' * i)

def item3_3(Number):
    print(" " * Number + "***")
    for i in range(1, Number):
        print(" " * (Number - i), end="")
        print("***", end="")
        for j in range(1, i * 2):
            print(" ", end="")
        print("***")

def item3_4(Number):
    tag = 0
    if (Number + 1) % 2 != 0:
        Number = Number - 1
        tag = 1
    algo = int(((Number + 1) / 2) - 1)
    for i in range(1, (Number - algo)):
        print(" " * (i - (algo - (algo - 1)))), end="")
        print("***", end="")
        for j in range(1, ((Number - algo - i) * 2) + tag):
            print(" ", end="")
        print("***")
    if tag == 1:
        print(" " * algo + "***")
        print(" " * algo + "***")
    else:
        print(" " * algo + "***")
    for i in range(1, (Number - algo)):
        print(" " * (algo - i), end="")
        print("***", end="")
        for j in range(1, (i * 2) + tag):
            print(" ", end="")
        print("***")

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def item3_5(Number):
    Number = Number + 2
    tag = 0 # 0:odd, 1:even
    if (Number + 1) % 2 != 0:
        tag = 1
    for i in range(1, Number - tag):
        if (float(i) % 2) != 0:
            print(" " * (int((Number - i) / 2) - 1), end="")
            print("*" * i, end="")
            print(" ")
    for i in range(3, Number):
        if (float(i + tag) % 2) == 0:
            print(" " * (int(i / 2) - 1), end="")
            print("*" * (Number - i), end="")
            print(" ")

def item3_6(Number):
    for i in range(0, Number):
        for j in range(1, Number - i):
            print("A", end="")
        print("+", end="")
        if i > 0:
            for j in range(0, (i * 2) - 1):
                print("E", end="")
            print("+", end="")
        for j in range(1, Number - i):
            print("B", end="")
        print(" ")

    for i in range(0, Number - 1):
        for j in range(1, i + 2):
            print("C", end="")
        print("+", end="")
        for j in range(0, ((Number - i - 2) * 2) - 1):
            print("E", end="")
        if i < Number - 2:
            print("+", end="")
        for j in range(1, i + 2):
            print("D", end="")
        print(" ")

def item5(Number):
    NumberList = list(range(2, Number + 1))
    i = 0
    j = 1
    while i < len(NumberList):
        while j < len(NumberList) - i:
            if (NumberList[j + i] % NumberList[i]) == 0:
                NumberList.remove(NumberList[j + i])
                j -= 1
            j += 1
        j = 1
        i += 1
    print(NumberList)

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def printitem2():
    x = client.llen('item2')
    for i in range(0, int(x)):
        x = client.lindex('item2', i)
        print(str(i + 1) + "). ", end="")
        item2(int(x))

def printitem3_1():
    x = client.llen('item3_1')
    for i in range(0, int(x)):
        x = client.lindex('item3_1', i)
        print(str(i + 1) + "). ")
        item3_1(int(x))

def printitem3_2():
    x = client.llen('item3_2')
    for i in range(0, int(x)):
        x = client.lindex('item3_2', i)
        print(str(i + 1) + "). ")
        item3_2(int(x))

def printitem3_3():
    x = client.llen('item3_3')
    for i in range(0, int(x)):
        x = client.lindex('item3_3', i)
        print(str(i + 1) + "). ")
        item3_3(int(x))

def printitem3_4():
    x = client.llen('item3_4')
    for i in range(0, int(x)):
        x = client.lindex('item3_4', i)
        print(str(i + 1) + "). ")
        item3_4(int(x))

def printitem3_5():
    x = client.llen('item3_5')
    for i in range(0, int(x)):
        x = client.lindex('item3_5', i)
        print(str(i + 1) + "). ")
        item3_5(int(x))

def printitem3_6():
    x = client.llen('item3_6')
    for i in range(0, int(x)):
        x = client.lindex('item3_6', i)
        print(str(i + 1) + "). ")
        item3_6(int(x))
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def printitem5():
    x = client.llen('item5')
    for i in range(0, int(x)):
        x = client.lindex('item5', i)
        print(str(i + 1) + "). ")
        item5(int(x))

def algoform(printitem, strtopic, strdata, strtopic2):
    printitem()
    select = input("Enter a number (1 to Add,2 to Delete) ,entering a blank
to main program): ")
    backNav = 0
    while backNav == 0:
        if select == "1":
            cont = 1
            while cont == 1:
                Number = input(
                    "Enter a number to " + strtopic + "or entering a blank to
main program : ")
                if Number.isdigit():
                    client.rpush(strdata, Number)
                    printitem()
                    print(strtopic2 + " Completed")
                elif Number.isalpha():
                    print(Number, "is Wrong input !")
                else:
                    Nav()
                    cont = 2
                    backNav = 1
            elif select == "2":
                cont = 2
                while cont == 2:
                    selectsubitem = input(" +" + "-" * 13 + "Enter option to
delete" + "-" * 13 + "+\n"

" |1:delete last one      | 2:select index to delete |\n "

"|3:delete all           | 4:show data                  |\n"

" or entering a blank to main program :")
                    if selectsubitem == "1":
                        client.rpop(strdata)
                        printitem()
                        print("delete complete")
                    elif selectsubitem == "2":
                        x = client.llen(strdata)
                        selectlredis = input("Enter number of item :")
                        if selectlredis.isdigit() and x >= int(selectlredis):
                            value = client.lindex(strdata, str(int(selectlredis)
- 1))
                            client.lrem(strdata, str(int(selectlredis) - 1),
value)
                            printitem()
                            print("delete complete")
                        else:

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        print("index " + selectlredis + " don't have data")
    elif selectsubitem == "3":
        x = client.llen(strdata)
        for i in range(0, int(x)):
            client.rpop(strdata)
        printitem()
        print("delete complete")
    elif selectsubitem == "4":
        printitem()
    elif selectsubitem.isdigit() or selectsubitem.isalpha():
        print(selectsubitem, "is Wrong input !")
    else:
        Nav()
        cont = 1
        backNav = 1
    elif select.isdigit() or select.isalpha():
        print(select, "is Wrong input !")
        select = input("Enter a number (1 to Add,2 to Delete ,entering a
blank to main program): ")
    else:
        Nav()
        break

def SelectItem(item):
    while True:
        if item == "1":
            backNav = 0
            while backNav == 0:
                item1()
                input("Press Enter to main program:")
                backNav = 1
                Nav()
            elif item == "2":
                algoform(printitem2, "check leap yeap", "item2", "cal leap year")
            elif item == "3.1":
                algoform(printitem3_1, "Show * Format 1 ", "item3_1", "Add *
Format 1 ")
            elif item == "3.2":
                algoform(printitem3_2, "Show * Format 2 ", "item3_2", "Add *
Format 2 ")
            elif item == "3.3":
                algoform(printitem3_3, "Show * Format 3 ", "item3_3", "Add *
Format 3 ")
            elif item == "3.4":
                algoform(printitem3_4, "Show * Format 4 ", "item3_4", "Add *
Format 4 ")
            elif item == "3.5":
                algoform(printitem3_5, "Show * Format 5 ", "item3_5", "Add *
Format 5 ")
            elif item == "3.6":
                algoform(printitem3_6, "Show * Format 6 ", "item3_6", "Add *
Format 6 ")
            if item == "4":
                backNav = 0
                while backNav == 0:

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        print("\nข้อแตกต่างของ 'else' กับ 'finally' คือ \n"
              "else จะถูกทำงานเมื่อคำสั่งใน try block ไม่มีข้อบกพร่อง \n"
              "finally ทำงานโดยไม่สนว่าข้อความใน try block สัมผัสหรือประสบความสำเร็จ\n"
              "try , except หากมีการ error ใน try จะข้ามไปทำคำสั่งใน except ต่อ\n"
              "เช่น \n"
              "try      : x = x+3 \n"
              "except : x = 4+4 \n"
              "else      : print('else'+x) \n"
              "finally: print('finally'+x) \n"
              "จะเห็นว่า ใน try error ทำให้ใน else ไม่ทำงาน แต่ใน finally ทำงาน\n"
              "ผลลัพท์จึงออกมาเป็น finally8\n")
        input("Press Enter to main program:")
        backNav = 1
        Nav()
    elif item == "5":
        algoform(printitem5, "finds all prime number ", "item5", "finds
prime number")
    elif item.isdigit() or item.isalpha():
        print()
    elif item == " ":
        print("thank you for use program.")
        break

    item = input("Please Enter Item number (1,2,4,5 or 3.1-3.6): ")

SelectItem(input("Please Enter Item number (1,2,4,5 or 3.1-3.6): "))

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