3.4

Generic Bag Container

2018/9/12   © Ren-Song Tsay, NTHU, Taiwan   21

Bag V.S. Stack

```
class Stack
{
public:
    Stack(int stackCapacity = 10);
    ~Stack();

    bool IsEmpty() const;

    int Top() const;

    void Push(const int);
    void Pop();
};
```

```
class Bag
{
public:
    Bag(int bagCapacity = 10);
    ~Bag();

    int Size() const;
    bool IsEmpty() const;
    int Element() const;

    void Push(Push(const int);
    void Pop()
};
```

22

Bag V.S. Queue

```
class Queue
{
public:
    Queue(int queueCapacity = 10);
    ~Queue();

    bool IsEmpty() const;
    int Rear() const;
    int Front() const;

    void Push(const int);
    void Pop();
};
```

```
class Bag
{
public:
    Bag(int bagCapacity = 10)
    ~Bag();

    int Size() const;
    bool IsEmpty() const;
    int Element() const;

    void Push(Push(const int);
    void Pop()
};
```

23

Generic Bag ADT

```
Class Bag
{
public:
  Bag(int bagCapacity=10);
  virtual ~Bag();
  virtual int Size() const;
  virtual bool IsEmpty() const;
  virtual int Element() const;
  virtual void Push(const int);
  virtual void Pop();
protected:
  int *array;
  int capacity;
  int top;
};
```

Implement operations not exist in the Bag class

```
class Stack: public Bag
{
public:
  Stack(int stackCapacity=10);
  ~Stack();
  int Top()const;
  void Pop();
};
```

24