```
package main

import (
    "encoding/json"
    "fmt"
    "log"

    "github.com/hyperledger/fabric-contract-api-go/contractapi"
)

// AssetTransfer provides functions for managing assets
type AssetTransfer struct {
    contractapi.Contract
}

// Asset describes basic details of what makes up a simple asset
type Asset struct {
    ID             string `json:"ID"`
    Owner          string `json:"Owner"`
    Color          string `json:"Color"`
    Size           int    `json:"Size"`
    AppraisedValue int    `json:"AppraisedValue"`
}
```

```
// CreateAsset issues a new asset to the world state with given details.
func (t *AssetTransfer) CreateAsset(ctx contractapi.TransactionContextInterface, id string, owner string, color string, size int, appraisedValue int) error {
    asset := Asset{
        ID:             id,
        Owner:          owner,
        Color:          color,
        Size:           size,
        AppraisedValue: appraisedValue,
    }

    assetJSON, err := json.Marshal(asset)
    if err != nil {
        return err
    }

    return ctx.GetStub().PutState(id, assetJSON)
}

// ReadAsset returns the asset stored in the world state with given id.
func (t *AssetTransfer) ReadAsset(ctx contractapi.TransactionContextInterface, id string) (*Asset, error) {
    assetJSON, err := ctx.GetStub().GetState(id)
```

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    if err != nil {
        return nil, fmt.Errorf("failed to read from world state: %v", err)
    }
    if assetJSON == nil {
        return nil, fmt.Errorf("the asset %s does not exist", id)
    }

    var asset Asset
    err = json.Unmarshal(assetJSON, &asset)
    if err != nil {
        return nil, err
    }

    return &asset, nil
}

// UpdateAsset updates an existing asset in the world state with
provided parameters.
func (t *AssetTransfer) UpdateAsset(ctx
contractapi.TransactionContextInterface, id string, owner string, color
string, size int, appraisedValue int) error {
    asset, err := t.ReadAsset(ctx, id)
    if err != nil {
        return err
    }
```

```
    asset.Owner = owner
    asset.Color = color
    asset.Size = size
    asset.AppraisedValue = appraisedValue

    assetJSON, err := json.Marshal(asset)
    if err != nil {
        return err
    }

    return ctx.GetStub().PutState(id, assetJSON)
}

// DeleteAsset deletes an given asset from the world state.
func (t *AssetTransfer) DeleteAsset(ctx
contractapi.TransactionContextInterface, id string) error {
    return ctx.GetStub().DelState(id)
}

// GetAllAssets returns all assets found in world state
func (t *AssetTransfer) GetAllAssets(ctx
contractapi.TransactionContextInterface) ([]*Asset, error) {
    queryString := `{"selector": {}}`
```

```
    resultsIterator, err := ctx.GetStub().GetQueryResult(queryString)
    if err != nil {
        return nil, err
    }
    defer resultsIterator.Close()

    var assets []*Asset
    for resultsIterator.HasNext() {
        queryResponse, err := resultsIterator.Next()
        if err != nil {
            return nil, err
        }

        var asset Asset
        err = json.Unmarshal(queryResponse.Value, &asset)
        if err != nil {
            return nil, err
        }
        assets = append(assets, &asset)
    }

    return assets, nil
}
```

```
func main() {
    chaincode, err := contractapi.NewChaincode(new(AssetTransfer))
    if err != nil {
        log.Panicf("Error creating asset-transfer chaincode: %v", err)
    }

    if err := chaincode.Start(); err != nil {
        log.Panicf("Error starting asset-transfer chaincode: %v", err)
    }
}
```