.data

Input: .asciiz "Please enter the amount of groceries you will be purchasing \n"

nextLine: .asciiz "\n"

numberCoupons: .asciiz "Please enter the number of coupons \n"

price: .asciiz "Please enter the price of item "

discount: .asciiz "Please enter the amount of coupon "

total: .asciiz "Your total is: "

thanks: .asciiz "Thank you for shopping with us "

toomanycoupons: .asciiz "Too many coupons \n"

toomanygroceries: .asciiz "Too many items to purchase\n"

declined: .asciiz "This coupon has been declined \n"

colon: .asciiz ":\t"

PriceArray: .word 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

CouponArray: .word 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

.text

start:

li \$v0, 4 #prints the string and reads the input to the user

la \$a0, Input

syscall

li \$s4, 1 #grocery limit

li \$s2, 20 #grocery limit checking

li \$s3, 10 #coupon limit amount

li \$v1, 0

add \$a1, \$v0, 0 #store groceries in s1

```
bgt $a1, $s2, errortoomanygroceries
        blt $s1, $s4, start
                                  #initializ fillpricearray
        la $a0, PriceArray
        li $t6, 1
        jal fillPriceArray
                              #jump and link to fill price array
        addi $t2, $v1, 0
couponentry:
        li $v0, 4
        la $a0, numberCoupons
        syscall
        li $v0, 5
        syscall
        bgt $v0, $a1, errortoomanycoupons
        blt $v0, $a1, couponentry
        addi $a1, $v0, 0
        li $t3, 0
                la $s0, PriceArray
```

la \$s1, CouponArray

```
li $v1, 0
                li $t6, 1
                jal fillCouponArray
                addi $t4, $v1, 0
                li $v0, 4
                la $a0, total
                syscall
                sub $t3, $t2, $t4
        li $v0, 1
        addi $a0, $t3, 0
        syscall
        j done
fillCouponArray:
        beq $a1, $t3, back
        li $v0, 4
        la $a0, discount
        syscall
        li $v0, 1
        addi $a0, $t6, 0
        syscall
```

```
li $v0, 4
        la $a0, colon
        syscall
        li $v0, 5
        syscall
        add $t8, $v0, 0
        lw $t7, 0($s0)
        bge $t8, $t7, declined
        bgt $t8, $s3, declined
        add $v1, $v1, $t9
        sw $t0, 0($s1)
        addi $s1, $s1, 4
        addi $s0, $s0, 4
        add $t3, $t3, 1
        addi $t6, $t6, 1
       j fillCouponArray
fillPriceArray:
        beq $a1, $t1, back
```

li \$v0, 4

la \$a0, price

```
li $v0, 1
        addi $a0, $t6, 0
        syscall
        li $v0, 5
        syscall
        addi $t8, $v0, 0
        add $v1, $v1, $t8
        sw $t8, 0($s0)
        addi $s0, $s0, 4
        addi $t1, $t1, 1
        addi $t6, $t6, 1
        j fillPriceArray
back:
        jr $ra
done:
        li $v0, 4
        la $a0, nextLine
        syscall
        li $v0, 4
        la $a0, thanks
        syscall
```

syscall

```
li $v0, 10
       syscall
errortoomanygroceries:
       li $v0, 4
        la $a0, toomanygroceries
        syscall
       j start
errortoomanycoupons:
        li $v0, 4
        la $a0, toomanycoupons
       syscall
       j couponentry
errordeclined:
        li $v0, 4
       la $a0, declined
        syscall
       addi $s1, $s1, 4
        addi $s0, $s0, 4
        addi $t6, $t6, 1
        addi $t3, $t3, 1
       j fillCouponArray
```