



The Barchart Program

```
TO BARCHART
  INIT NODRAW
  GET.INPUT CALCULATE
  DRAW.CHART
END
```

```
TO INIT
  MAKE "COLORS [0 1 2 5 6 0 1 2 5 6 0 1 2 5 6]
  MAKE "BACKG 11
  MAKE "DATA []
  MAKE "HEIGHT 160
  MAKE "WIDE 190
  MAKE "XSTART (-104)
  MAKE "YSTART (-40)
END
```

```
TO GET.INPUT
  GET.TITLE
  IF FIRST :TITLE = "END THEN STOP
  GET.QUANTITY
  MAKE "DATA LPUT SENTENCE :TITLE :QUANTITY
  :DATA
  GET.INPUT
END
```

```
TO GET.TITLE
  PRINT "
  PRINT [ (TYPE END TO STOP) ]
  (PRINT1 "TITLE: ")
  MAKE "TITLE REQUEST
  IF EMPTY? :TITLE THEN GET.TITLE
END
```

```
TO GET.QUANTITY
  (PRINT1 "QUANTITY: ")
  MAKE "QUANTITY REQUEST
  IF EMPTY? :QUANTITY THEN GET.QUANTITY
  ELSE IF NOT NUMBER?
    FIRST :QUANTITY THEN GET.QUANTITY
END
```

```
TO CALCULATE
  MAKE "MAX 0
  GET.MAX :DATA
  MAKE "SCALE :HEIGHT / :MAX
END
```

```
TO GET.MAX :DATALIST
  IF EMPTY? :DATALIST THEN STOP
  IF LAST FIRST :DATALIST > :MAX THEN MAKE
    "MAX LAST FIRST
  :DATALIST
  GET.MAX BUTFIRST :DATALIST
END
```

```
TO DRAW.CHART
  DRAW BACKGROUND :BACKG
  HIDE TURTLE FULLSCREEN
  MAKE "WIDTH ((ROUND ((:WIDE / COUNT
    :DATA) / 8)) * 8) - 8
```

```
PENUP SETXY :XSTART :YSTART
DRAW.AXIS
DRAW.CHART1 :COLORS :DATA
LABEL :DATA
END
```

```
TO DRAW.AXIS
  PENDOWN
  SETY YCOR + :HEIGHT + 10
  SETY YCOR - 10
  SETX XCOR + 4
  SETX XCOR - 8
  PENUP
  SETX XCOR - (8 * COUNT :MAX)
  WRITE 0 :MAX
  SETX XCOR + 4
  SETY :START
END
```

```
TO WRITE :XINC :YINC :NAME
  IF EMPTY? :NAME THEN STOP
  STAMPCHAR FIRST :NAME
  SETXY XCOR + :XINC YCOR + :YINC
  WRITE :XINC :YINC BUTFIRST :NAME
END
```

```
TO DRAW.CHART1 :PENCOLORS :DATALIST
  IF EMPTY? :DATALIST THEN STOP
  SETX XCOR + 8
  PENCOLOR FIRST :PENCOLORS
  PENDOWN
  FILL ((LAST FIRST :DATALIST) * :SCALE)
    :WIDTH
  PENUP
  DRAW.CHART1 BUTFIRST :PENCOLORS
  BUTFIRST :DATALIST
END
```

```
TO FILL :LEN :WID
  IF :WID = 0 THEN STOP
  FORWARD :LEN RIGHT 90
  FORWARD 1 LEFT 90
  BACK :LEN RIGHT 90
  FORWARD 1 LEFT 90
  FILL :LEN :WID - 2
END
```

```
TO LABEL :DATALIST
  LABEL1 (:XSTART + 8 + :WIDTH / 2) (:YSTART
    - 10)
  :DATALIST
END
```

```
TO LABEL1 :X :Y :DATALIST
  IF EMPTY? :DATALIST THEN STOP
  SETXY :X :Y
  WRITE 0 (-10) FIRST FIRST :DATALIST
  LABEL1 (:X + :WIDTH + 8) :Y BUTFIRST
    :DATALIST
END
```

END

