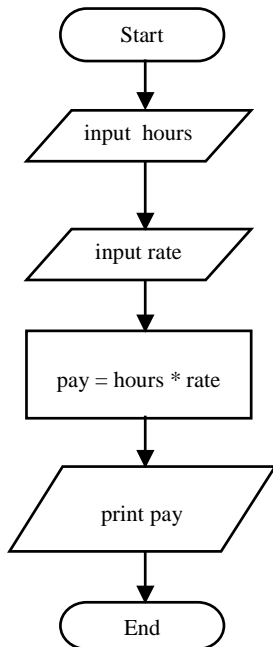


## Introductory Examples of Flowcharts and Pseudocode

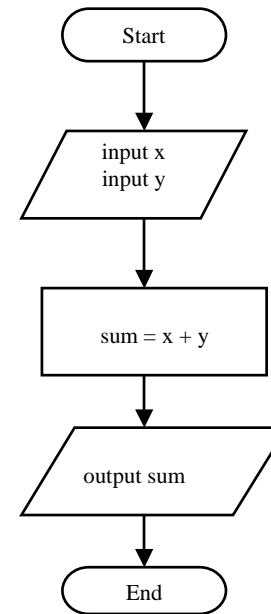
### Chapter 3

#### Calculate Pay - sequence



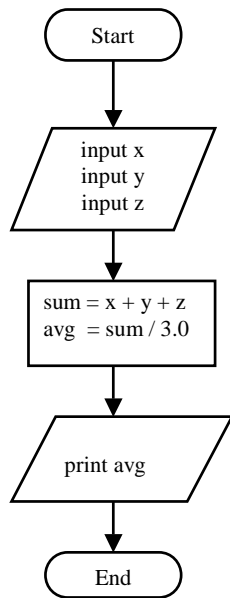
```
Begin
input hours
input rate
pay = hours * rate
print pay
End
```

#### Sum of 2 Numbers - sequence



```
Begin
input x, y
sum = x + y
print sum
End
```

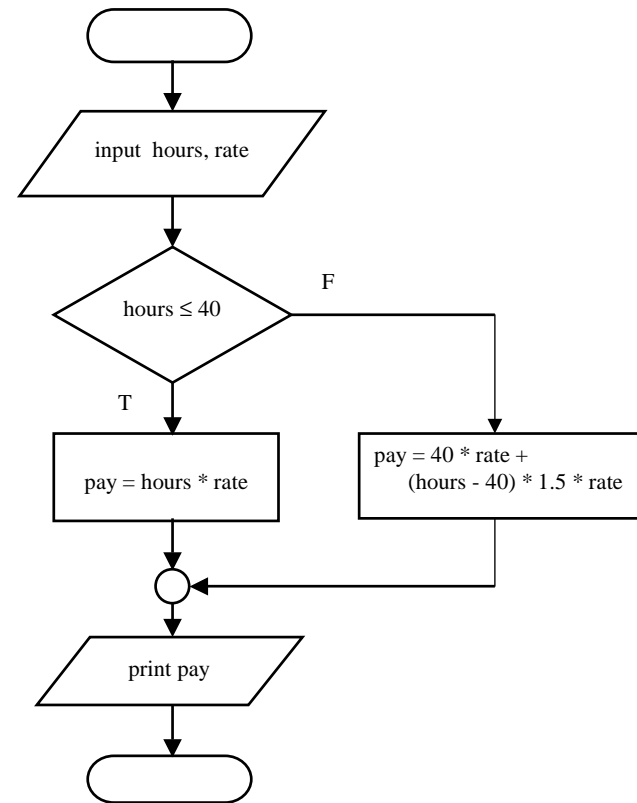
### Average of 3 Numbers - sequence



```

Begin
  input x
  input y
  input z
  sum = x + y + z
  avg = sum / 3.0
  print avg
End
  
```

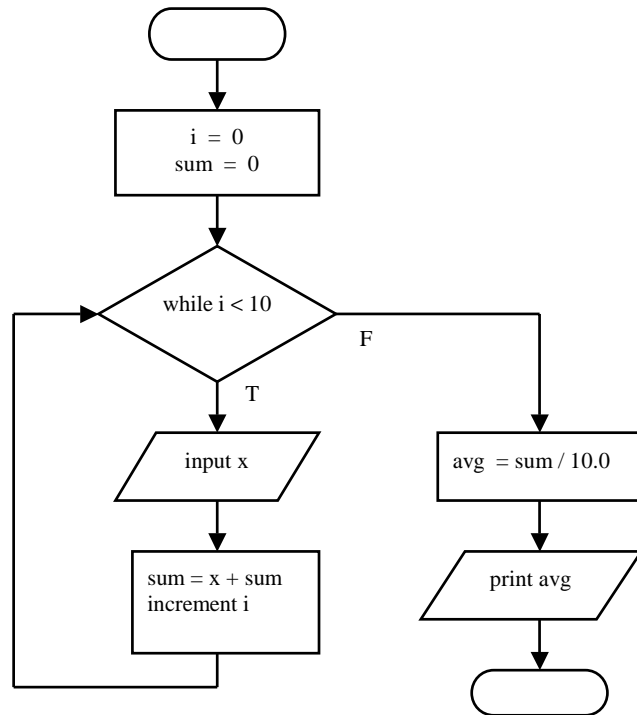
### Calculate Pay with Overtime - selection



```

Begin
  input hours, rate
  if hours ≤ 40 then
    pay = hours * rate
  else
    pay = 40 * rate + (hours - 40) * rate * 1.5
  print pay
End
  
```

### Average of 10 Numbers – iteration with a while loop

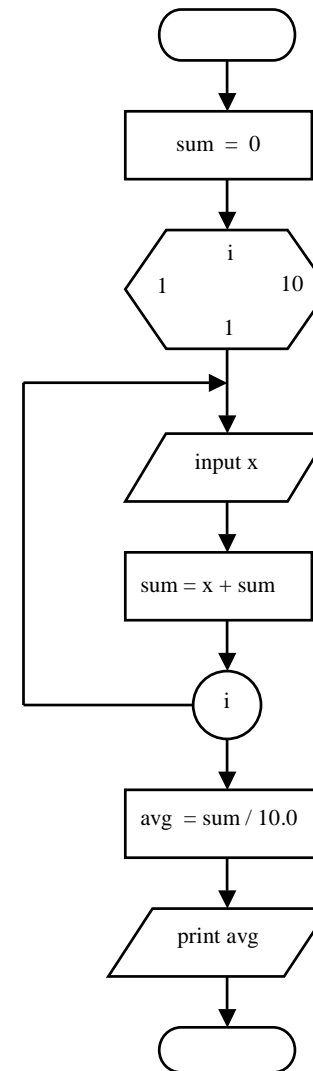


Begin  
 i = 0  
 sum = 0  
 while i < 10  
   input x  
   sum = sum + x  
   ++i  
 avg = sum / 10.0  
 print avg  
 End

Begin  
 i = 0  
 sum = 0  
 a: if i ≥ 10 goto b  
   input x  
   sum = sum + x  
   ++i  
   goto a  
 b: avg = sum / 10.0  
   print avg  
 End

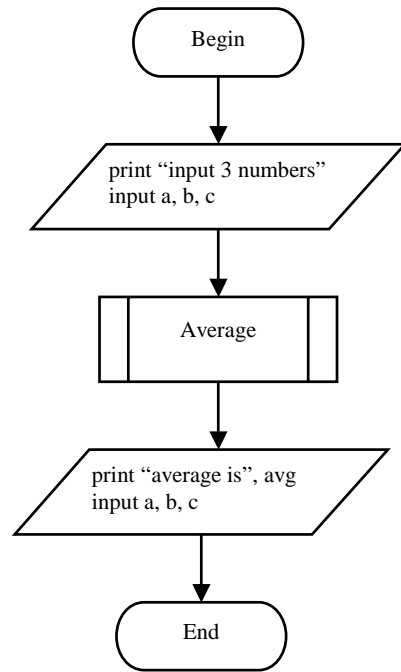
**Comment** Strictly speaking, the above flowchart corresponds more to the pseudocode on the right hand side. However, as you can see, ‘gotos’ make code less modular and more unreadable.

### Average of 10 Numbers – iteration with a for loop

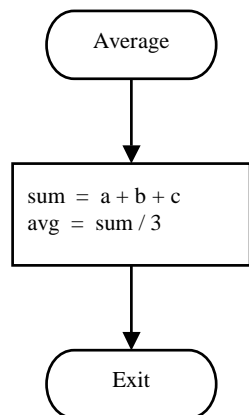


Begin  
 sum = 0  
 for i = 1 to 10  
   input x  
   sum = sum + x  
 avg = sum / 10.0  
 print avg  
 End

## Flowchart for Function or Subroutine Module



```
Begin
  print "Input 3 numbers: "
  input a, b, c
  avg = average(a, b, c)
  print "Average is ", avg
End
```



```
Begin Average(a, b, c)
  sum = a + b + c
  avg = sum / 3.0
  return avg
End
```