

Higher National Diploma in Computing

Programming

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Lab Sheet - 01

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Question 01

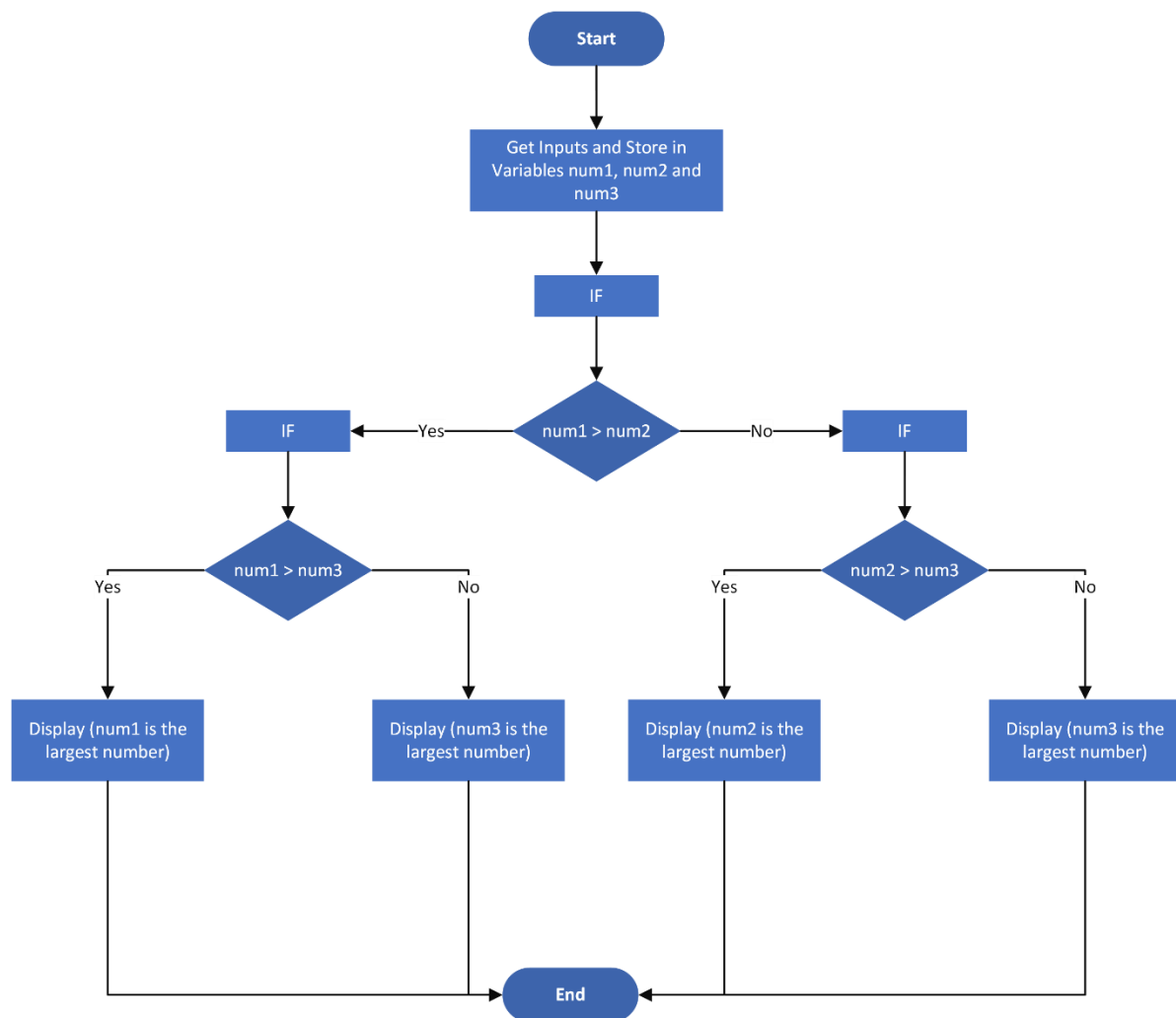


Figure 1 Finding Largest Number – Flowchart

Pseudo Code

```
num1 = input
```

```
num2 = input
```

```
num3 = input
```

```
if ( num1 > num2 ):
```

```
    if ( num1 > num3 ):
```

```
        print ( num1 is the largest number )
```

```
    else:
```

```
        print ( num3 is the largest number )
```

else:

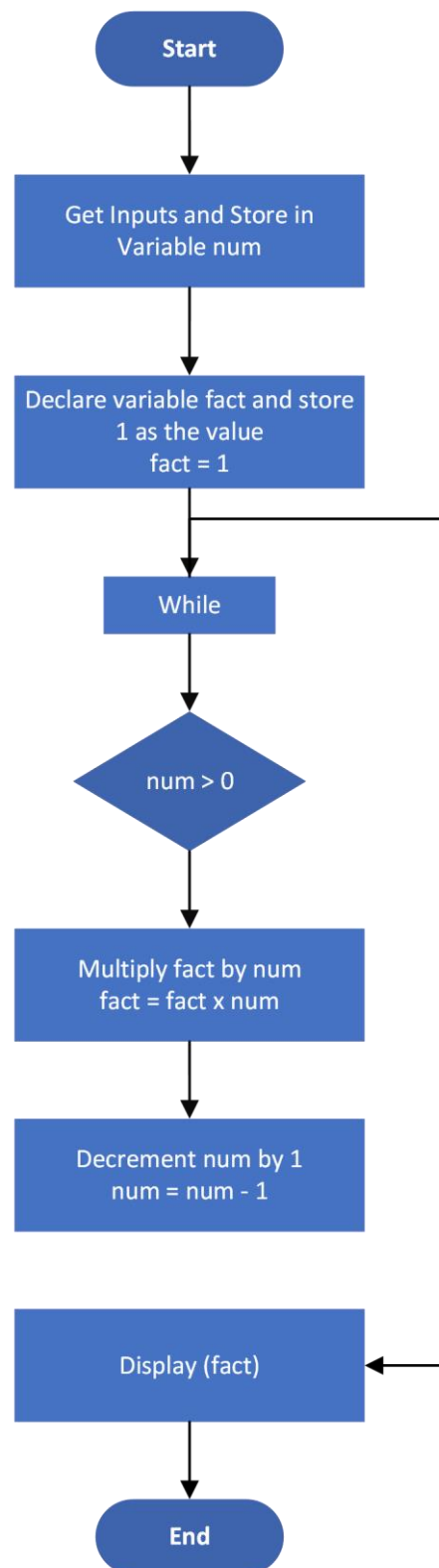
if (num2 > num3):

print (num2 is the largest number)

else:

print (num3 is the largest number)

Question 02

*Figure 2 Finding Factorial – Flowchart*

Pseudo Code

num = input

fact = 1

while num > 0:

 fact = fact x num

 num = num + 1

print (fact)

Question 03

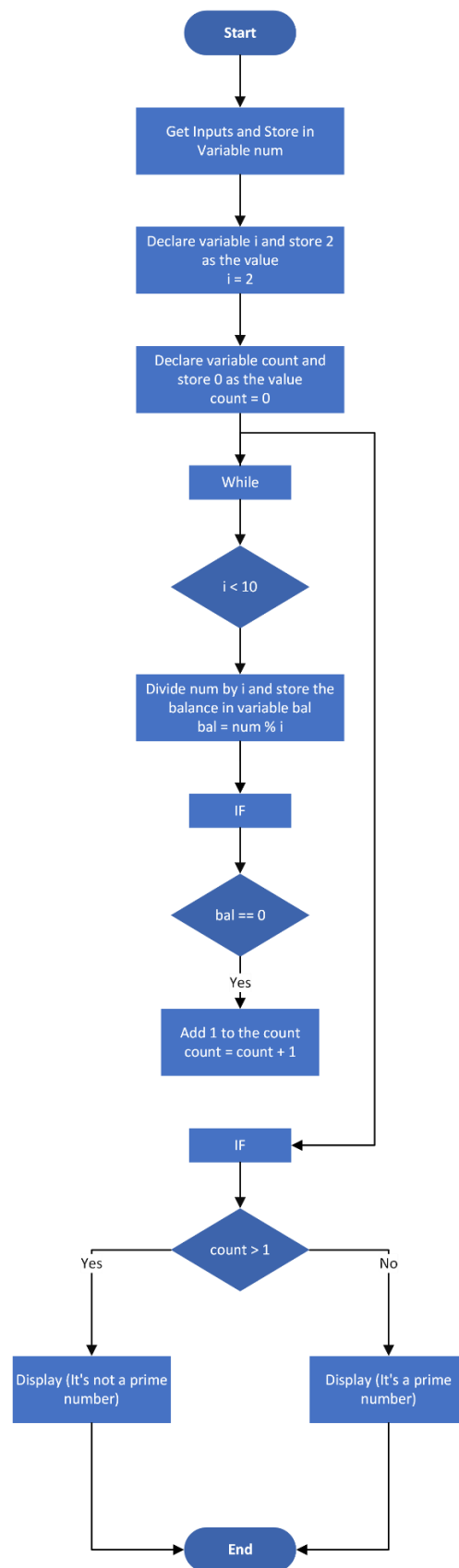


Figure 3 Finding the Prime Number – Flowchart

Pseudo Code

```
num = input
```

```
i = 2
```

```
count = 0
```

```
while i < 10:
```

```
    bal = num % i
```

```
    if bal == 0:
```

```
        count = count + 1
```

```
if count > 1:
```

```
    print (It's not a prime number)
```

```
else:
```

```
    print (It's a prime number)
```

Question 04

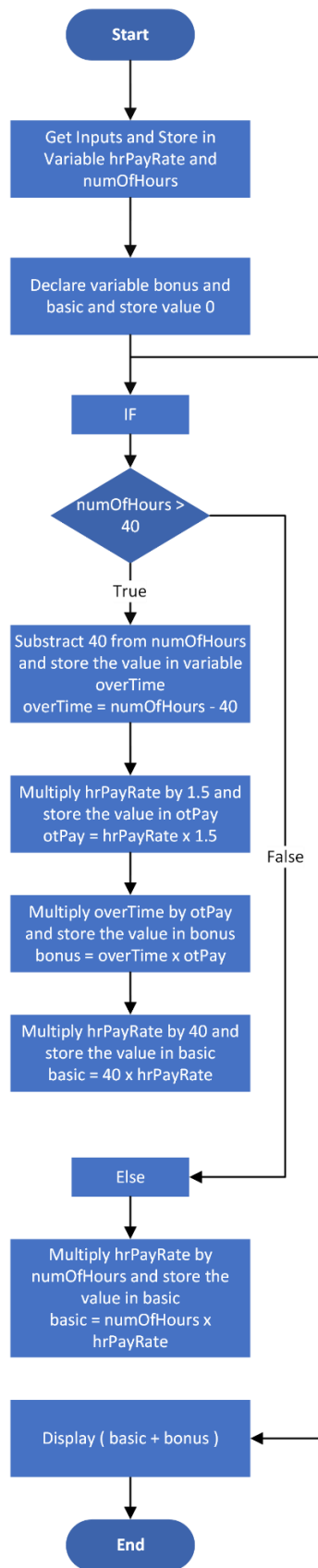


Figure 4 Finding Gross Salary – Flowchart

Pseudo Code

hrPayRate = input

numOfHour = input

bonus = 0

basic = 0

if numOfHour > 40:

 overTime = numOfHour – 40

 otPay = hrPayRate x 1.5

 bonus = otPay x overTime

 basic = 40 x hrPayRate

else:

 basic = numOfHour x hrPayRate

print (basic + bonus)

Question 05

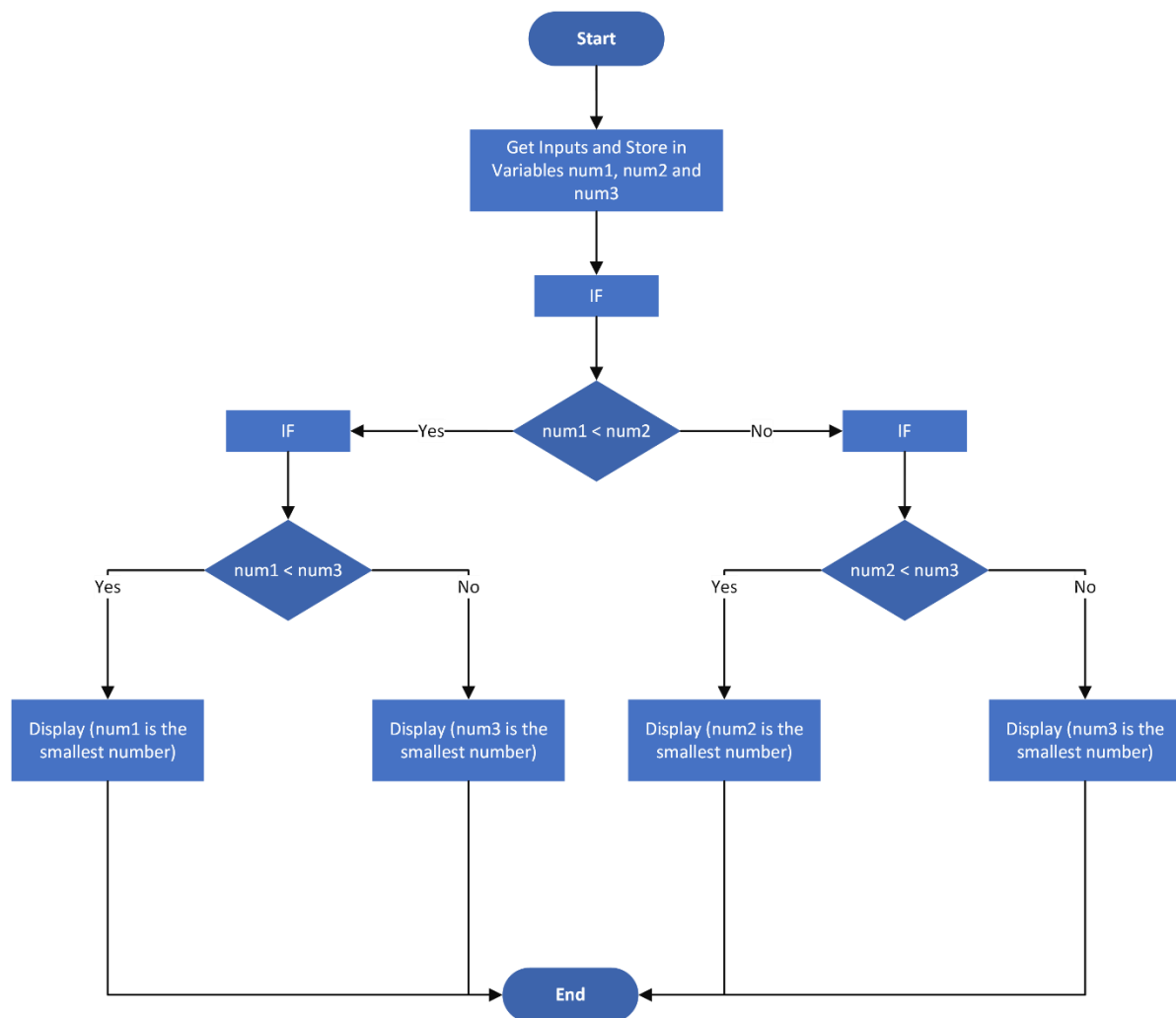


Figure 5 Finding the Smallest Number – Flowchart

Pseudo Code

```
num1 = input
```

```
num2 = input
```

```
num3 = input
```

```
if ( num1 < num2 ):
```

```
    if ( num1 < num3 ):
```

```
        print ( num1 is the smallest number )
```

```
    else:
```

```
        print ( num3 is the smallest number )
```

```
else:
```

```
if ( num2 < num3 ):  
    print ( num2 is the smallest number )  
else:  
    print ( num3 is the smallest number )
```

Question 06

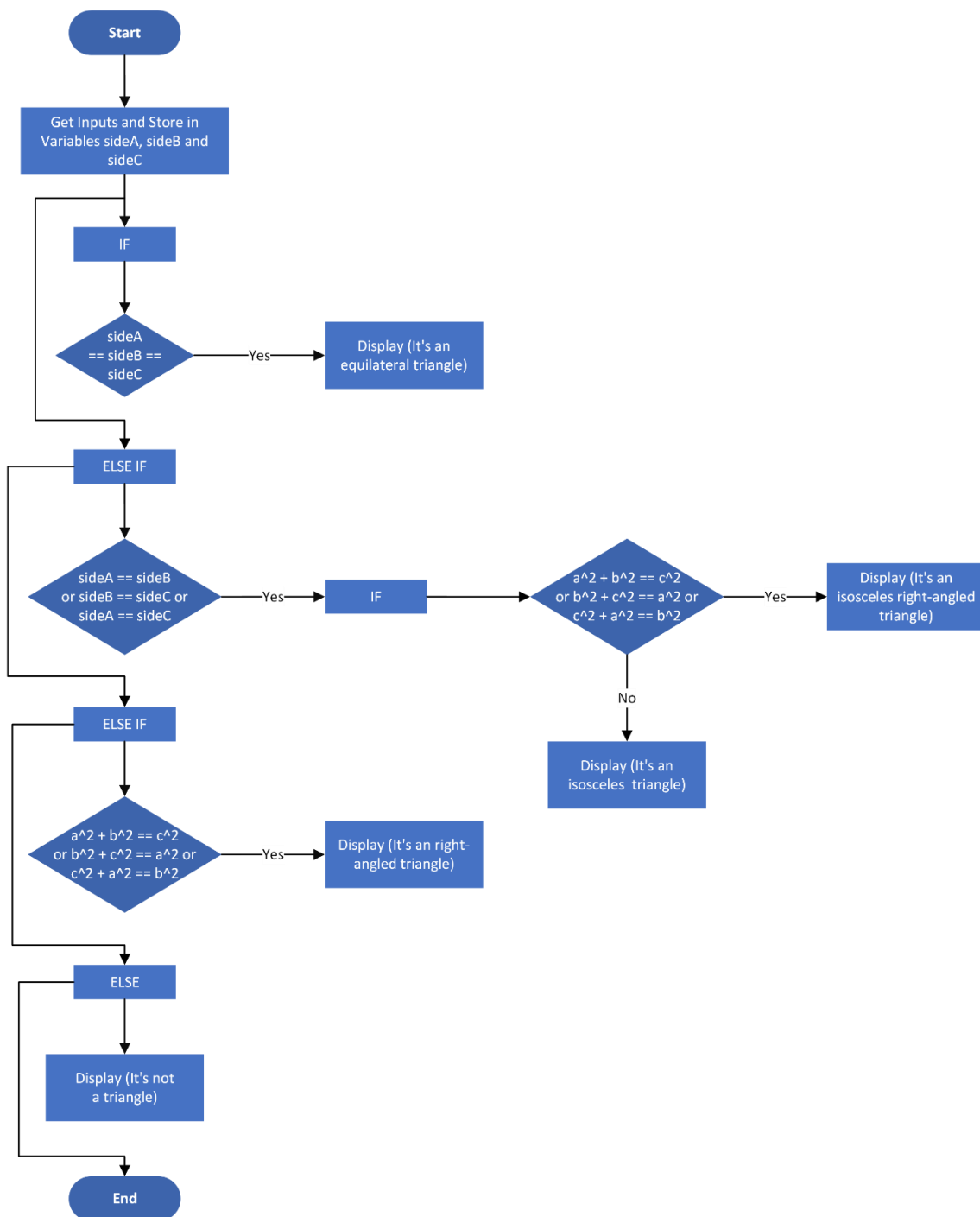


Figure 6 Finding the Triangle Type – Flowchart

Pseudo Code

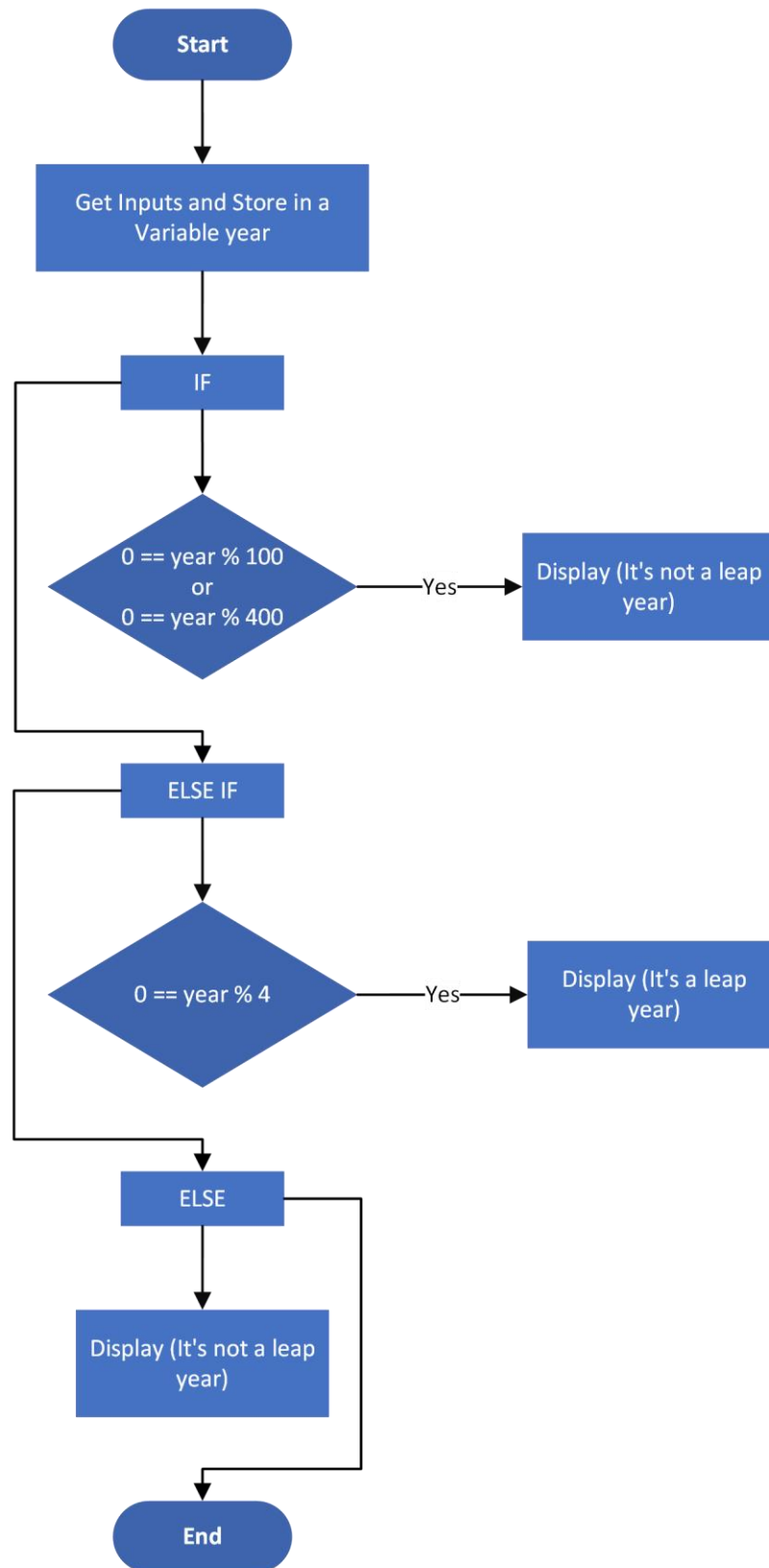
sideA = input

sideB = input

```
sideC = input

if sideA == sideB == sideC:
    print (It's an equilateral triangle)
elif sideA == sideB or sideB == sideC or sideA == sideC:
    if sideC x sideC = sideA x sideA + sideB x sideB or sideA x sideA = sideB x sideB +
    sideC x sideC or sideB x sideB = sideA x sideC + sideB x sideC:
        print (It's an isosceles right-angled triangle)
    else:
        print (It's an isosceles triangle)
elif sideC x sideC = sideA x sideA + sideB x sideB or sideA x sideA = sideB x sideB + sideC
x sideC or sideB x sideB = sideA x sideC + sideB x sideC:
    print (It's a right-angled triangle)
else:
    print (It's not a triangle)
```


Question 07

*Figure 7 Find the Leap Year – Flowchart*

Pseudo Code

year = input

if 0 == year % 100 or 0 == year % 400:

 print (It's not a leap year)

elseif 0 == year % 4:

 print (It's a leap year)

else:

 print (It's not a leap year)