ALGORITHM crossing a road

1. Approach curb

2. Stop

3. Look Right

4. Look Left

5. If Clear Of Traffic Cross Road

6. If Pedestrians Crossing Cross Aswell

7. Approach Other Side Of Road

8. Drive Onto Foot Path

9. Continue Route

Pseudocode Code – Adding Two Numbers

OUTPUT ”Enter a number”

Input Num 1

OUTPUT “Your Number IS \_\_\_”

OUTPUT “Enter A Secound Number”

INPUT Num 2

OUTPUT “Your Secound Number Is\_\_\_”

SUM<------ Num 1 + Num 2

OUTPUT “The Sum Is\_\_\_”

TRACING/TESTING

(Example Trace Table)

|  |  |  |  |
| --- | --- | --- | --- |
| Num 1 | Num 2 | Num 3 | Num 4 |
| 6 | 3 | 9 | The sum of 6+3 is 9 |

Pseudocode Code – Area of a rectangle

OUTPUT ”Enter a number”

Input Num 1

OUTPUT “Your Number IS num1”

OUTPUT “Enter Another Number”

INPUT Num 2

OUTPUT “Your Secound Number Is num2”

Product = Num 1 + Num 2

OUTPUT “The area of a rectangle with side lengths of (num1) and (num2) is (product)

Pseudocode Code – rulers and pens IDK

OUTPUT ”enter the quantity of and price of your rulers”

Input Q, P

OUTPUT “enter the quantity and price of your pens”

Input Q, P

Total Cost <--RQxRP+QxP

OUTPUT “The total cost is...”+Total cost

End

|  |  |  |
| --- | --- | --- |
| Quantity | Price | Output |
| 4 | $1.50 | The Total Cost Is $12 |
| Quantity | Price |  |
| 6 | $1.50 |  |

Pseudocode Code – Area of a CIRCLE

OUTPUT ”Enter the radius of the circle”

Input radius

Circumference “2(PI \* radius)

Area PI \* (radius^2)

Output “the circumfrance of the circle is “ + circumfrance

OUTPUT “the area of the circle is” +area

|  |  |  |
| --- | --- | --- |
| Radius | Area | Output |
| 6 | 113.0973 | The Area is 113.0973 |
| Diameter | Circumfrance | Output |
| 12 | 37.6991 | The Circumference is 37.6991 |

Pseudocode Code – Surface area of a rectangle

OUTPUT ”Enter the length of your rectangle prism”

Input l

OUTPUT “enter the bredth of your rectangular prism”

Input b

Output “enter the height of ypur rectanguler prism”

Input h

Volume <-- lxbxh

Surface Area <-- (2xlxh) + (2x lx b) + (2x bx h)

OUTPUT “the volume is... “ +Volume

OUTPUT “the surface area is...” + surface area

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| length | breadth | Height | volume | Surface area | Output |
| 4 | 3 | 2 | 24 | 52 | The Volume is 24cm  The surface area is 52cm |

$

$$

$$$

$$$$

$$$$$

For r = 1 to 3

Begin

For c = 1 to 4

Begin

Output

End

Go to the next line

Pseudocode Code- Your Age In Years

OUTPUT ”Enter your age”

Input a

If <below 12>

<true> output “you are to young to be at this school”

end

<False> Output”

end

TRACING/TESTING

|  |  |
| --- | --- |
| Age | Age |
| 12/100 | 1/11 |
| “ok” | “you are to young for this school” |

S = 0

For n = 1to5

Begin Output n+n

End output “that's all folks”

Write a program to output the first five cube numbers. When complete display thats all, folks

1,8 etc

Draw a trace table

S = 0

For n = 1 to 5

BEGIN OUTPUT s = n + n

END OUTPUT “thats all folks”

|  |  |  |
| --- | --- | --- |
| Answer (s) | Number(n) | OUTPUT |
| 0 | 1 | 1 |
| 1 | 2 | 8 |
| 8 | 3 | 27 |
| 27 | 4 | 64 |
| 64 | 5 | 125 |
| 125 |  | “thats all folks” |

A <--2

B<--1

FOR J = 1 to 3

Begin C= A\*B

B <--

End

OUTPUT C

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A | B | C | J | OUTPUT |
| 2 | 1 | 2 | 1 |  |
| 2 | 2 | 4 | 2 |  |
| 2 | 4 | 8 | 3 |  |
|  |  |  |  | 8 |

B <--4

H<--2

For J = 1to3

Begin A=(b\*h)/2

H<--A

End

Output A

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A | B | H | J | OUTPUT |
| 4 | 4 | 2 | 1 |  |
| 8 | 4 | 4 | 2 |  |
| 16 | 4 | 8 | 3 |  |
|  |  |  |  | 16 |

A<--1

B<--1

For j =3 to7

Begin<-- a+b

A<--b

End b<--c

OUTPUT C

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A | B | c | J | OUTPUT |
| 1 | 1 | 2 | 3 |  |
| 1 | 2 | 3 | 4 |  |
| 2 | 3 | 5 | 5 |  |
| 3 | 5 | 8 | 6 |  |
| 5 | 8 | 13 | 7 |  |
|  |  |  |  | 13 |

P<--O

For j=1to6

Begin p<-- p+j

OUTPUT P

End

OUTPUT “what do you think the next number is”

Input N

If N =\_\_\_

OUTPUT “CORRECT”

Else OUTPUT “WRONG”

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| P | J | OUTPUT | N | OUTPUT |
| o | 1 | 0 |  |  |
| 1 | 2 | 1 |  |  |
| 3 | 3 | 3 |  |  |
| 6 | 4 | 6 |  |  |
| 10 | 5 | 10 |  |  |
| 15 | 6 | 15 |  |  |
| 21 |  | 21 |  | What do you think the number is? |
|  |  |  | 2 8 | CORRECT |

e.g.(the 5th factorial is)

5! = 1x2x3x4x5 = 120

Let the user chose the factorial number to be calculated

Test using a trace table

Sum of interior angles of a polygon

OUTPUT “how many polygons do you wish to calculate the sum of the interior angles”

INPUT N iF N =5

FOR J= 1 to N

OUTPUT “what is the number of sides of your polygon?”

Output: “Enter any number”

Input n

P=1

For J= 1 to n

Begin J \* 1 to n

Output: “n! is J”

|  |  |  |
| --- | --- | --- |
| N | J | OUTPUT |
| 1 | 1X1 | 1 |
| 2 | 1X2 | 2 |
| 5 | 1X2X3X4X5 | 120 |
| 7 | 1X2X3X4X5X6X7 | 5040 |
| 11 | 1x2x3x4x5x6x7x8x9x10x1 | 39916800 |