Name: Class:

Task 1

Look at the below algorithm below.

1. INPUT Low
2. INPUT High
3. FOR i 🡨 Low TO High
4. OUTPUT High \* i
5. NEXT i

(a) Complete the table below to show the output for each of the given inputs.

|  |  |
| --- | --- |
| Input | Output |
| Input a: 1 Input b: 4 |  |
| Input a: 0 Input b: 3 |  |
| Input a: 5 Input b: 10 |  |
| Input a: 10 Input b: 20 |  |
| Input a: 5 Input b: 5 |  |

(b) Test the outputs that you have calculated in the table above by running the code in the language that you are studying. Be aware that FOR loops in some languages may not include the High value.

Task 2

Look at the algorithm below.

1. a 🡨 5
2. b 🡨 10
3. FOR i 🡨 a TO b
4. Mod 🡨 b % i
5. Mult 🡨 Mod \* a
6. OUTPUT Mult
7. NEXT i

Complete the trace table below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| a | b | i | Mod | Mult | Output |
| 5 | **10** |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
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|  |  |  |  |  |  |
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Task 3

Look at the table below that shows a small amount of pseudocode along with the purpose of the code. Each section of pseudocode has one line with an error in it.

Complete the table to state which type of error is shown, then re-write the line of code with an error.

|  |  |  |  |
| --- | --- | --- | --- |
| Pseudocode | Purpose of code | Type of error | Fixed code |
| Ages 🡨 [15,16,18] Total 🡨 0 FOR i 🡨 1 TO LENGTH(Ages)  Total 🡨 Age  NEXT i OUTPUT Total/LENGTH(Ages) |  |  |  |
| OUTPUT "Enter height"  INPT Height  InchHeight 🡨 Height/2.54 OUTPUT inchHeight |  |  |  |
| Colours 🡨 ["blue","red"] FOR i 🡨 0 TO LENGTH(Colours)  OUTPUT colours[i]  NEXT i |  |  |  |