

1) Choose the correct answer.

[5]

| | | | | |
|------------------|--------------------|------------------|-------------------|---------------|
| my blocks | Sub-routine | debugging | Indefinite | errors |
|------------------|--------------------|------------------|-------------------|---------------|

1. A **sub-routine** is a subset of code within a program.
2. **Indefinite** loops where instructions repeat without stopping.
3. We can test different parts of the program systematically to identify and debug **errors.**
4. Fixing an error is called **debugging.**
5. Sub-routine blocks can be created from **my blocks** in the palette.

2) Explain what the algorithms are about.

[4]

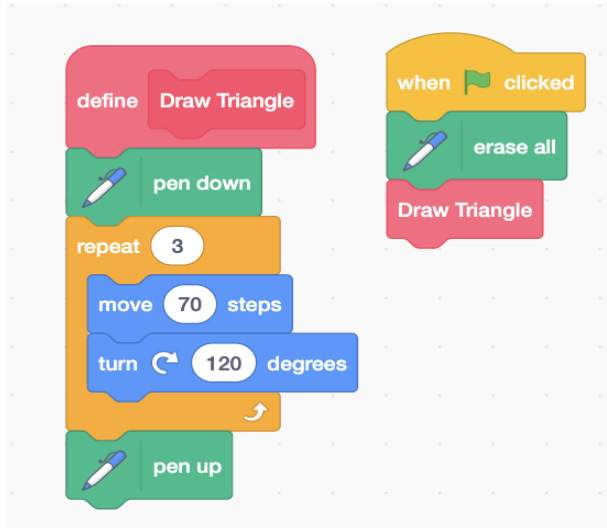
| Step | Instruction |
|------|---|
| 1 | Start program when space key is pressed |
| 2 | Say "Oh yeah!" |
| 3 | Run "Jump" sub-routine |
| 4 | Play pop sound |

| Step | Instruction |
|------|--------------------------|
| 1 | Start "Jump" sub-routine |
| 2 | Change y position by 50 |
| 3 | Wait for 0.2 seconds |
| 4 | Change y position by -50 |

Students will explain in their own words

3) Write an algorithm for the given scratch 3 program.

[6]



Sub-routine “Draw Triangle”

To draw Triangle Shape

| Steps | Instruction |
|-------|---------------------------------|
| 1 | Define draw triangle |
| 2 | Pen down |
| 3 | Move 70 steps |
| 4 | Turn right 120 degrees |
| 5 | Repeat step 3 and 4 three times |
| 6 | Pen up |

| Steps | Instruction |
|-------|------------------------------|
| 1 | When green flag is clicked |
| 2 | Erase all |
| 3 | Run subroutine draw triangle |

4) State whether the statements are true or false.

[5]

- Sub-routine is a block of code with unique identifiable name. True
- There are 3 types of definite (repeat) loops. False
- Sub-routine block can be created from the variable palette. False
- Sub-routine makes it easier to code, test and debug. True
- Definite (repeat) loops where instructions repeat a number of times before stopping. True