School Connect Online

SCO INTERNATIONAL CODING OLYMPIAD

CLASS 4 SOLVED QUESTION PAPER

A reviewed coding paper for schools, teachers, parents, and students

Designed from Class 4 coding pathways and aligned with SCO's platform flow for guided preparation, practice, reporting, and future-ready digital growth.

- age-fit coding guidance for Class 4 / primary-level learners globally
- coding pathways across logic, algorithms, Scratch, Python, debugging, variables, flowcharts, game design, and robot reasoning
- answer key, explanations, correction notes, and revision guidance for website-ready student practice

Coding	Logic	Scratch	Python	Algorithms
Debugging	**Game Design**	**Flowcharts**	**Coding**	**Digital Skills**

School Connect Online

Section 1: Fundamentals of Coding

Understanding programming languages, input and output devices, loops, algorithms, flowcharts, debugging, logic, and variables.

Question 1 | **Sec. 1: Fundamentals of Coding**

What is the purpose of a programming language?

A. To solve mathematical problems only
B. To communicate with a computer and give instructions
C. To create documents like a word processor
D. To store images and videos

Correct Answer: B. To communicate with a computer and give instructions

Explanation: A programming language is used to give instructions to a computer. It helps people write steps that a computer can understand and follow.

Question 2 | **Sec. 1: Fundamentals of Coding**

Which of the following is NOT an example of an input device?

A. Keyboard
B. Mouse
C. Printer
D. Touchscreen

Correct Answer: C. Printer

Explanation: A keyboard, mouse, and touchscreen send information into a computer. A printer gives output on paper, so it is an output device, not an input device.

Question 3 | **Sec. 1: Fundamentals of Coding**

In coding, what does a loop do?

A. It stops the program immediately
B. It repeats a set of instructions multiple times
C. It deletes all the lines of code
D. It adds random numbers to the code

Correct Answer: B. It repeats a set of instructions multiple times

Explanation: A loop repeats instructions again and again until a condition is met or a required number of repetitions is completed.

Question 4 | **Sec. 1: Fundamentals of Coding**

What is an algorithm?

A. A set of step-by-step instructions to solve a problem
B. A type of computer virus
C. A tool used to write stories
D. A type of game

Correct Answer: A. A set of step-by-step instructions to solve a problem

Explanation: An algorithm is a clear sequence of steps used to solve a problem. Coding begins by planning the algorithm before writing the program.

Question 5 | **Sec. 1: Fundamentals of Coding**

Which symbol is commonly used to show decision-making in flowcharts?

A. Oval
B. Rectangle
C. Diamond
D. Circle

Correct Answer: C. Diamond

Explanation: A diamond symbol is commonly used for a decision point in a flowchart, such as a yes/no or true/false question.

Question 6 | **Sec. 1: Fundamentals of Coding**

A monkey climbs 2 steps at a time but slips back 1 step after each climb until it finally reaches the top. How many climbing moves will it take to reach the 6th step?

A. 3
B. 4
C. 6
D. 5

Correct Answer: D. 5

Explanation: Each climb gives a net gain of 1 step after slipping, except the final climb. The monkey reaches the 6th step on the 5th climbing move, so the answer is 5.

Question 7 | **Sec. 1: Fundamentals of Coding**

Which statement is correct about debugging in coding?

A. It is the process of finding and fixing errors in a program
B. It is a tool to draw pictures
C. It is used for writing emails
D. It is a method of playing games

Correct Answer: A. It is the process of finding and fixing errors in a program

Explanation: Debugging means finding mistakes, understanding why a program is not working correctly, and fixing the errors.

Question 8 | **Sec. 1: Fundamentals of Coding**

Which of the following logic statements is correct?

A. 5 is greater than 10
B. A triangle has four sides
C. A computer follows instructions given to it
D. Coding is not related to problem-solving

Correct Answer: C. A computer follows instructions given to it

Explanation: Computers do not guess what to do. They follow the instructions given through programs.

Question 9 | **Sec. 1: Fundamentals of Coding**

Identify the odd one out:

A. AND
B. OR
C. IF
D. CAT

Correct Answer: D. CAT

Explanation: AND, OR, and IF are related to logic or decision-making in coding. CAT is an animal and does not belong to the coding logic group.

Question 10 | **Sec. 1: Fundamentals of Coding**

What is a variable in programming?

A. A tool that only stores pictures
B. A container that holds data or information
C. A special kind of computer hardware
D. A set of instructions for a game

Correct Answer: B. A container that holds data or information

Explanation: A variable is like a named container that stores data such as a score, name, number, or message. Its value can be used or changed while the program runs.

Section 2: Game Concepts and Animation

Using direction keys, sprites, hide/show commands, frame rate, collisions, and conditional logic in simple animations and games.

Question 11 | **Sec. 2: Game Concepts and Animation**

If you want a character to move left in a game, which direction key would you use?

A. Up Arrow
B. Down Arrow
C. Left Arrow
D. Right Arrow

Correct Answer: C. Left Arrow

Explanation: The left arrow key is normally used to move a character toward the left side of the screen.

Question 12 | **Sec. 2: Game Concepts and Animation**

What is the main purpose of sprites in a game?

A. To store game data
B. To create moving characters and objects

C. To delete errors
D. To write game codes

Correct Answer: B. To create moving characters and objects

Explanation: Sprites are characters or objects that can move, change appearance, interact, and perform actions in a game or animation.

Question 13 | **Sec. 2: Game Concepts and Animation**

In a simple animation, if you want to make an object disappear, which command should you use?

A. Show
B. Hide
C. Jump
D. Speak

Correct Answer: B. Hide

Explanation: The Hide command makes a sprite or object invisible. The Show command brings it back.

Question 14 | **Sec. 2: Game Concepts and Animation**

What happens when you increase the frame rate in an animation?

A. The animation moves faster
B. The animation stops working
C. The computer restarts
D. The colors of the animation change

Correct Answer: A. The animation moves faster

Explanation: A higher frame rate shows more frames in the same amount of time, so movement can appear faster and smoother.

Question 15 | **Sec. 2: Game Concepts and Animation**

If you create a game where a ball bounces when it touches a wall, which coding concept are you using?

A. Loop
B. Condition
C. Function
D. Variable

Correct Answer: B. Condition

Explanation: The game checks a condition such as 'if touching wall'. When the condition is true, the ball changes direction and bounces.

Section 3: Applied Coding Logic

Debugging blocks, pseudocode, keyboard controls, robot movement, project sequence, Scratch variables, data types, and if-else decisions.

Question 16 | **Sec. 3: Applied Coding Logic**

Sara is creating a game where a cat jumps over an obstacle when she presses the space key. However, when she runs the program, the cat does not jump. What should she check first?

A. If her computer is turned on
B. If the Jump block is connected properly
C. If the cat can talk
D. If the spacebar key is working in her email

Correct Answer: B. If the Jump block is connected properly

Explanation: The most useful first check is whether the block or script that makes the cat jump is correctly connected to the space-key event.

Question 17 | **Sec. 3: Applied Coding Logic**

Below is a simple pseudocode block. What is the mistake in the code?

```
if (score > 10)
    print("You win!")
else
    print("Game over!")
```

A. The word print should be display
B. There should be a semicolon after if
C. The else statement should be removed
D. There is no mistake

Correct Answer: D. There is no mistake

Explanation: As pseudocode, the logic is correct: if the score is greater than 10, it prints 'You win!'; otherwise, it prints 'Game over!'.

Question 18 | **Sec. 3: Applied Coding Logic**

Teacher: Can anyone tell me why computers follow our instructions exactly as we give them? Which student gave the correct answer?

A. Student A: Because computers have a brain like humans.
B. Student B: Because computers can think and decide.
C. Student C: Because computers follow instructions step by step.
D. Student D: Because computers can learn from mistakes.

Correct Answer: C. Student C: Because computers follow instructions step by step.

Explanation: Computers follow instructions step by step. They do not understand intention like humans unless instructions are written clearly.

Question 19 | **Sec. 3: Applied Coding Logic**

A game developer is making a racing game. When the player presses the up key, the car should move forward. However, instead of moving forward, the car moves backward. What is the likely mistake?

A. The up key is not connected
B. The program mistakenly sets the direction as negative instead of positive

C. The car is not designed to move forward
D. The keyboard is broken

Correct Answer: B. The program mistakenly sets the direction as negative instead of positive

Explanation: If the car moves in the opposite direction, the movement value or direction may have been set incorrectly, such as using a negative value instead of a positive one.

Question 20 | **Sec. 3: Applied Coding Logic**

If you want a robot to follow a specific path on the floor using sensors, which concept should be used?

A. Loops
B. Conditionals
C. Event Handling
D. Line Following Algorithm

Correct Answer: D. Line Following Algorithm

Explanation: A line-following algorithm helps a robot use sensors to detect and follow a path or line on the floor.

Question 21 | **Sec. 3: Applied Coding Logic**

Which of the following is the correct sequence of steps in a coding project?

A. Write Code -> Test -> Plan -> Debug
B. Plan -> Write Code -> Test -> Debug
C. Debug -> Write Code -> Plan -> Test
D. Test -> Plan -> Debug -> Write Code

Correct Answer: B. Plan -> Write Code -> Test -> Debug

Explanation: A good coding process begins with planning, then writing the code, testing it, and debugging any errors found during testing.

Question 22 | **Sec. 3: Applied Coding Logic**

A loop that never stops running is called a:

A. Infinite Loop
B. Finite Loop
C. Conditional Loop
D. Iterative Loop

Correct Answer: A. Infinite Loop

Explanation: An infinite loop keeps running because its stopping condition is never reached or is missing.

Question 23 | **Sec. 3: Applied Coding Logic**

What is the correct way to store a number in a variable named score in Scratch?

A. score = Hello
B. set score to 10
C. print(score)
D. loop score = 5

Correct Answer: B. set score to 10

Explanation: In Scratch, a variable can be given a value using a block such as 'set score to 10'.

Question 24 | **Sec. 3: Applied Coding Logic**

What does an if-else statement do in programming?

A. It repeats a block of code forever
B. It stores data in memory
C. It makes decisions based on conditions
D. It stops a program immediately

Correct Answer: C. It makes decisions based on conditions

Explanation: An if-else statement chooses between two paths. The if part runs when the condition is true; the else part can run when the condition is false.

Question 25 | **Sec. 3: Applied Coding Logic**

Which of the following is NOT a data type?

A. String
B. Integer
C. Logic
D. Boolean

Correct Answer: C. Logic

Explanation: String, integer, and boolean are common data types. Logic is a concept used for reasoning and decisions, but it is not usually named as a data type here.

Question 26 | **Sec. 3: Applied Coding Logic**

If a robot moves forward by 3 steps and then turns left, how many turns will it make to face the original direction after 4 repetitions?

A. 1
B. 2
C. 3
D. 4

Correct Answer: D. 4

Explanation: Turning left four times makes a full turn of 360 degrees. After 4 repetitions, the robot faces the original direction again and has made 4 turns.

Question 27 | **Sec. 3: Applied Coding Logic**

Debugging is an important part of coding because:

A. It helps find and fix errors in code
B. It adds new features to programs
C. It makes computers faster
D. It creates new programming languages

Correct Answer: A. It helps find and fix errors in code

Explanation: Debugging helps programmers identify and fix mistakes so the program works as intended.

Question 28 | **Sec. 3: Applied Coding Logic**

What will be the output of this logic if the number is 9?

```
IF (number is even) THEN
   Print "Even Number"
ELSE
   Print "Odd Number"
```

A. Even Number
B. Odd Number
C. 9
D. Error

Correct Answer: B. Odd Number

Explanation: The number 9 is not even, so the condition 'number is even' is false. The program moves to the ELSE part and prints 'Odd Number'.

Question 29 | **Sec. 3: Applied Coding Logic**

A game developer wants to make a character jump when the space key is pressed. What should the code include?

A. A loop to repeat the jump forever
B. A conditional statement checking if the space key is pressed
C. A command to change the color of the character
D. A function that resets the game

Correct Answer: B. A conditional statement checking if the space key is pressed

Explanation: The program should check the condition that the space key is pressed, and then run the jump action.

Question 30 | **Sec. 3: Applied Coding Logic**

A student wrote a program where a car should move when the right arrow key is pressed, but instead, it moves left. What is the most likely error?

A. The car has a flat tire
B. The program is using the wrong key event or direction value
C. The computer screen is flipped
D. The program has no errors

Correct Answer: B. The program is using the wrong key event or direction value

Explanation: The likely mistake is that the right arrow event has been connected to the wrong movement direction or wrong movement value.

School Connect Online

Section 4: Achievers Section

Score handling, Scratch event blocks, conditional statements, script behavior, and Python syntax correction.

Question 31 | **Sec. 4: Achievers Section**

In a racing game, a player should gain 10 points when they cross the finish line. Which block in Scratch should be used to add 10 points to the score?

A. set score to 10
B. change score by 10
C. add 10
D. reset score

Correct Answer: B. change score by 10

Explanation: 'Change score by 10' increases the existing score by 10. 'Set score to 10' would replace the score with 10 instead of adding points.

Question 32 | **Sec. 4: Achievers Section**

A programmer is designing a game where a cat should stop moving when it touches a red object. What coding concept should be used?

A. Loops
B. Variables
C. Conditional Statements
D. Functions

Correct Answer: C. Conditional Statements

Explanation: The program needs to check a condition such as 'if touching red object'. Conditional statements are used for this kind of decision.

Question 33 | **Sec. 4: Achievers Section**

A student wrote the following Scratch-style script. Which statement best describes what this script will do when the character touches an edge?

```
When Green Flag Clicked
Move 10 Steps
If touching edge then
   Move -10 Steps
```

A. The character will never move
B. The character will move forward and then move backward when it touches an edge
C. The character will teleport to a random position
D. The program will crash

Correct Answer: B. The character will move forward and then move backward when it touches an edge

Explanation: The sprite first moves 10 steps. If it touches the edge, it then moves -10 steps, which means it moves backward from the edge.

Question 34 | **Sec. 4: Achievers Section**

In Scratch, which block should you use to start a game when you want the program to begin when the green flag is clicked?

A. When Green Flag Clicked
B. When Space Key Pressed
C. Forever
D. Wait

Correct Answer: A. When Green Flag Clicked

Explanation: The 'When Green Flag Clicked' block starts scripts when the green flag is clicked, so it is commonly used to start a Scratch project or game.

Question 35 | **Sec. 4: Achievers Section**

Find the error in the following Python code:

```
if x > 5
    print("x is greater than 5")
```

A. There is no error; it works perfectly.
B. The code is missing a colon after the if condition.
C. The print function is used incorrectly.
D. The variable x should be in quotes.

Correct Answer: B. The code is missing a colon after the if condition.

Explanation: In Python, an if statement header must end with a colon. The corrected code is: if x > 5: followed by the indented print statement.

Complete Answer Key

1	2	3	4	5	6	7	8	9	10
B	C	B	A	C	D	A	C	D	B
11	12	13	14	15	16	17	18	19	20
C	B	B	A	B	B	D	C	B	D
21	22	23	24	25	26	27	28	29	30
B	A	B	C	C	D	A	B	B	B
31	32	33	34	35					
B	C	B	A	B					

Final Revision Notes

- A programming language helps humans communicate instructions to computers.
- An algorithm is a step-by-step method for solving a problem.
- A loop repeats instructions; a condition helps a program decide what to do next.
- A variable stores data such as score, speed, name, or direction.
- Debugging means finding and fixing errors in a program.
- In Scratch, sprites are characters or objects; show/hide, motion, variables, and events help build games.
- In Python, if statements need a colon after the condition, and indentation is important.

School Connect Online

Website-ready Publishing Note

This solved paper is structured for student practice, teacher review, school circulation, and SCO website publishing. The content uses editable Word text, not full-page screenshots. No additional question-level image has been inserted because the uploaded source paper did not contain required question-specific images for the coding questions.