

1.3 EXCHANGING DATA · 1.3.4

JavaScript & web forms — Mark scheme

31 marks · spec 1.3.4(a)

AO key: AO1 = knowledge & understanding · AO2 = application. Accept valid alternative syntax; allow minor slips if intent is clear. Do not award the same point twice.

Q	ANSWER	AO	MARKS
1(a)	To make the page interactive / respond to the user (e.g. validate input, change content). (1)	AO1	1
1(b)	<script> (... </script>) tags. (1)	AO1	1
1(c)	A compiler produces object/machine code specific to one type of processor (1); a web page may be opened on many different devices/processors (1); so the browser interprets it at run time, making it portable across all of them (1). (3)	AO1	3
1(d)	JavaScript. (1)	AO1	1

Q	ANSWER	AO	MARKS
2(a)	document.getElementById("result") (1); .innerHTML = "Pass" (1). (2)	AO2	2
2(b)	alert("Saved") (1)	AO2	1
2(c)	It forces a message the user must acknowledge (1); ensures important information is seen / they cannot continue until they dismiss it (1). (2)	AO2	2

Q	ANSWER	AO	MARKS
3(a)	Checking that entered data is sensible/reasonable/complete before it is accepted. (1)	AO1	1
3(b)	Any one developed: presence check — field is not blank (1) + reject if empty (1); OR format check — must contain an @ symbol (1) + reject if absent (1). (2)	AO2	2
3(c)	Instant feedback without waiting for the server (1); the user can fix errors immediately / no wasted submission round-trip (1). (2)	AO2	2
3(d)	Client-side checks can be bypassed (JavaScript disabled / page tampered with) (1); so unvalidated/malicious data could still reach the server (1); server-side validation re-checks it before it is trusted or stored, ensuring integrity/security (1). (3)	AO2	3

Q	ANSWER	AO	MARKS
4(a)	It finds the number of items in the <code>products</code> array (<code>.length</code>) (1) and displays that number in the element with id <code>display</code> (1). (2)	AO2	2
4(b)	Replaces the innerHTML line with an alert (1); correct syntax <code>alert(x)</code> within the function (1). e.g. <code>function count() { x = products.length; alert(x); }</code> (2)	AO2	2

Q	LEVELS-OF-RESPONSE MARK SCHEME	AO	MARKS										
5	Mark using the levels descriptors below. AO1 (knowledge of client/server processing), AO2 (application to the checkout form & recommendation). <table><tr><th>LEVEL</th><th>DESCRIPTOR</th></tr><tr><td>Level 3 (6–8)</td><td>Accurately explains client-side and server-side processing with benefits and limitations, clearly applied to the checkout form, with a justified recommendation for how to split the checks. Well structured.</td></tr><tr><td>Level 2 (3–5)</td><td>Covers both with some application and partial recommendation.</td></tr><tr><td>Level 1 (1–2)</td><td>Basic points about client and/or server processing with little application.</td></tr><tr><td>0</td><td>Nothing creditworthy.</td></tr></table> Indicative content (credit any valid point): • Client-side (JavaScript): quick checks like address not blank / code format, giving instant feedback and reducing server load; but can be bypassed. • Server-side: must re-check the discount code is valid/exists in the database and recalculate any totals, because this is secure and cannot be tampered with. • Anything affecting money or stored data (discount validity, final price) must be confirmed server-side. • Recommendation: use client-side for fast presence/format checks and user experience; do all trust-critical validation (discount code, pricing) server-side.	LEVEL	DESCRIPTOR	Level 3 (6–8)	Accurately explains client-side and server-side processing with benefits and limitations, clearly applied to the checkout form, with a justified recommendation for how to split the checks. Well structured.	Level 2 (3–5)	Covers both with some application and partial recommendation.	Level 1 (1–2)	Basic points about client and/or server processing with little application.	0	Nothing creditworthy.	AO1 ×3 AO2 ×5	8
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Total for paper: 31 marks