CS 490-004 Network Programming
Fall 2026
Quiz #8 on October 27, 2026

Your Last Three Digits: _____
(please do NOT write all of your student ID or your name)

Grade: _____

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(1) What are the primary advantages in Java Servlet (compared with CGI)?

① Java-Servlet is a MR platform. Execution is fast (when one is called at a server).

② Compile-based programs → program codes are investigated before they are executed (more secure and more reliable code executions).

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(2) What are the two major advantages in "JSP" compared to Java Servlet?

① No need for Java programmers (anyone who can handle HTML/XML can handle it).

② No need to compile a program file each time any change is made to a program file (more productive application developments)

(3) In the following four Java-based web application programming methods, which one (ones) uses Java compiler (select all that apply)?

(a) Servlet

(b) JSP

(c) Java script

(d) Java applet

(e) None of the above

(4) Select which of: Servlet, JSP, Java Script and Java Applet fits to the four blanks in the following table (one for each blank):

		Amount of data application Needs to process *	
		Low (Server Side)	High (Client Side)
Complexity in the process to be performed	Low	CGI (script programs) JSP (bus faster than CGI)	Java Script (client side)
	High	Servlet	Java Applet Java Script (client side)

(5) Suppose that you are a software engineer who got a contract to develop a web application based on Java. The most important requirement in the contract is that the application you develop must run correctly no matter which web browsers your users will use. Which one of the following options will be the best method (select the best one)? Justify your choice.

(a) Servlet (the best)

(b) JSP

(c) Java script

(d) Java applet (acceptable, but not best)

Your justification:

(a) Since the most important requirement in the contract is that the application you develop must run correctly no matter which web browsers your users will use, the method should be a server-side implementation (Servlet). It is because, a process is executed at a server and the server transmits the results (outputs) to the client-side (i.e., browsers). Therefore, the outputs will be less dependent on browsers (because browsers will not execute programs).

(b) Although JSP is a server-side programming method, the outputs made by JSP codes generate/synthesize HTML tags as the results of the executed JSP codes, which browsers at the

user (client)-side use for the outputs at the client. Thus, the final outputs at the user side still depends on browsers.

(c) Java scripts are executed by browsers (each browser interprets each java script, translates the java script to an executable code, and executes the codes). Thus, Java scripts are most dependent on each browser (among the four network programming methods in this question).

(d) Although Java applets are a client-side method, Java applets are compiled at a server (compiled to Java executable codes (known as "Java Bytecodes") and a server sends the already-compiled java executables to browsers. Then, browsers invoke (start running) the java executable codes (but browsers do not execute the java executable codes (browsers just invoke the java executable codes). Thus, it is less dependent on browsers than JSP.