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**Homework 1-27**

1. Create a game where the program produces a random number between 1 and 100.
   1. Allow the user to guess a number and prompt the user if their guess was too high or too low until the user guesses the correct number.
2. We will have the homework for building a Class tomorrow. Please do some research on HTTP Verbs and HTTP Status Codes.
   1. **GET**
      1. The GET method requests a representation of the specified resource. Requests using GET should only [retrieve data](https://en.wikipedia.org/wiki/Data_retrieval) and should have no other effect. (This is also true of some other HTTP methods.)[[1]](https://en.wikipedia.org/wiki/Hypertext_Transfer_Protocol#cite_note-ietf2616-1) The [W3C](https://en.wikipedia.org/wiki/W3C) has published guidance principles on this distinction, saying, "[Web application](https://en.wikipedia.org/wiki/Web_application) design should be informed by the above principles, but also by the relevant limitations."[[24]](https://en.wikipedia.org/wiki/Hypertext_Transfer_Protocol#cite_note-24) See [safe methods](https://en.wikipedia.org/wiki/Hypertext_Transfer_Protocol#Safe_methods) below.
   2. **HEAD**
      1. The HEAD method asks for a response identical to that of a GET request, but without the response body. This is useful for retrieving meta-information written in response headers, without having to transport the entire content.
   3. **POST**
      1. The [POST method](https://en.wikipedia.org/wiki/POST_(HTTP)) requests that the server accept the entity enclosed in the request as a new subordinate of the [web resource](https://en.wikipedia.org/wiki/Web_resource) identified by the URI. The data POSTed might be, for example, an annotation for existing resources; a message for a bulletin board, newsgroup, mailing list, or comment thread; a block of data that is the result of submitting a [web form](https://en.wikipedia.org/wiki/Form_(HTML)) to a data-handling process; or an item to add to a database.[[25]](https://en.wikipedia.org/wiki/Hypertext_Transfer_Protocol#cite_note-25)
   4. **PUT**
      1. The PUT method requests that the enclosed entity be stored under the supplied [URI](https://en.wikipedia.org/wiki/Uniform_Resource_Identifier). If the URI refers to an already existing resource, it is modified; if the URI does not point to an existing resource, then the server can create the resource with that URI.[[26]](https://en.wikipedia.org/wiki/Hypertext_Transfer_Protocol#cite_note-26)
   5. **DELETE**
      1. The DELETE method deletes the specified resource.
   6. **TRACE**
      1. The TRACE method echoes the received request so that a client can see what (if any) changes or additions have been made by intermediate servers.
   7. **OPTIONS**
      1. The OPTIONS method returns the HTTP methods that the server supports for the specified [URL](https://en.wikipedia.org/wiki/URL). This can be used to check the functionality of a web server by requesting '\*' instead of a specific resource.
   8. **CONNECT**
      1. [[27]](https://en.wikipedia.org/wiki/Hypertext_Transfer_Protocol#cite_note-rfc2616.9.9-27) The CONNECT method converts the request connection to a transparent [TCP/IP tunnel](https://en.wikipedia.org/wiki/Tunneling_protocol), usually to facilitate [SSL](https://en.wikipedia.org/wiki/Transport_Layer_Security)-encrypted communication (HTTPS) through an unencrypted [HTTP proxy](https://en.wikipedia.org/wiki/HTTP_proxy).[[28]](https://en.wikipedia.org/wiki/Hypertext_Transfer_Protocol#cite_note-28)[[29]](https://en.wikipedia.org/wiki/Hypertext_Transfer_Protocol#cite_note-29) See [HTTP CONNECT method](https://en.wikipedia.org/wiki/HTTP_tunnel#HTTP_CONNECT_method).
   9. **PATCH**
      1. The PATCH method applies partial modifications to a resource.[[30]](https://en.wikipedia.org/wiki/Hypertext_Transfer_Protocol#cite_note-30)