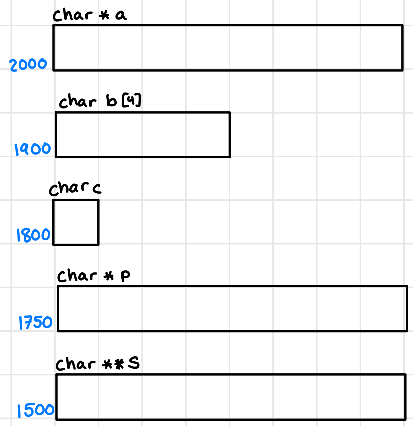
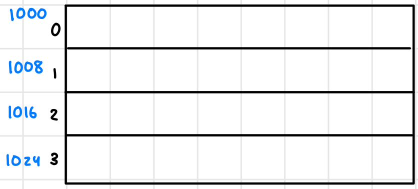
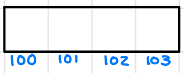
STACK



HEAP



PROGRAM CODE



Evaluate the expressions listed on the answer sheet in the context of the given C code. Here is what I mean by evaluating an expression:

- For integer expressions (i.e., expressions whose types are char, short, int, size_t, long, or long long--either signed or unsigned), write the numeric value in DECIMAL notation.

  - We will only accept decimal notation; e.g., if the answer is 65, NONE of the following will be accepted: 0x41, 01000001, 'A', 2^6+1.

  - C has no boolean type. Do NOT write "true" or "false". YOU WILL LOSE POINTS IF YOU DO. Write 1 for true and 0 for false.

  - Write "UNPREDICTABLE" for an integer expression whose value can change from one run of the program to another.

- For non-integer expressions, write the type name, in the format that you use to declare a variable of that type. Some example type names include (but not limited to):

  ```
  int *       double       double **       int (*)(int *, int *)
  ```

- Write "INVALID" if a given expression will result in a compiler error.

```
int main(int argc, char **argv)
{
    assert('0' == 48 && (long) NULL == 0);
    assert('a' == 97 && 'b' == 98 && 'c' == 99 && 'x' == 120);

    char *a = "0xa";
    char b[4] = "0xb";
    char c = 0xc;

    char *p = malloc(sizeof(char *) * 4);
    char **s = (char **)p;

    s[0] = a++;
    s[1] = b;
    s[2] = &c;
    s[3] = p;

    ////////////////////////////////////////////////////////////////
    //                                                            //
    //    Evaluate the expressions listed on the answer sheet     //
    //    in the context of main() at this point.                 //
    //                                                            //
    ////////////////////////////////////////////////////////////////

    free(s);

    return 0;
}
```

[1]

(1.1) *a

(1.2) b + 1

(1.3) c + 2

(1.4) (long) argv[argc]

(1.5) sizeof(b)

(1.6) strlen(b + 1)

(1.7) sizeof(a) == sizeof(b + 2)

(1.9) *"0" <= *("1" + 1)

(1.10) s[1][0] <= s[0][1]

(1.11) s[2][3]
