1. Using the variable x, give definitions for the following:

   (a) An integer

   (b) A pointer to an integer

   (c) An array of 10 integers

   (d) An array of 10 pointers to integers

2. What is the output of the following C program?

```c
#include <stdio.h>

int main ()
{
  int vals[5] = {4, 3, 2, 5, 1};
  int i;
  for (i=0; i<=5; i++) {
    printf("vals[%d]=%d\n", i, vals[i]);
  }
  return 0;
}
```

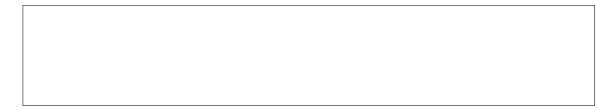3. (a) What is the output of the following C program?

```c
# include <stdio.h>
void fun(int y)
{
    y = 30;
}
int main()
{
  int y = 20;
  fun(y);
  printf("%d", y);
  return 0;
}
```

(b) In the program above, is the variable y in `main()` stored on the stack or on the heap?

(c) What is the output of this C program?

```c
# include <stdio.h>
void fun(int *y)
{
    *y = 30;
}
int main()
{
  int y = 20;
  fun(&y);
  printf("%d", y);
  return 0;
}
```

(d) In the program above, is the variable y in `main()` stored on the stack or on the heap?

(e) True or false: `&y` in `main()` and y in `fun()` have the same value.