Fundamentals of Computing: Lecture 16

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Summary of the previous lecture

- Integers can be added and subtracted to pointers.
- Difference of two pointers can be taken if they are of the same type.
- The operator `ptr++` etc also works. array.

Summary continued...

- For arrays `T a[100]` the value `a` is the address of the starting element.
- The expression `&a[i]` is equivalent to `a+i`
- The expression `a[i]` is equivalent to `*(a+i)`.

Passing arrays to functions

- The value of an array variable is the starting address.
- Functions are call by value.

```c
#include <stdio.h>

int strlen(char *ptr)
{
  char *start = ptr;
  while(*ptr) ptr++;
  return ptr - start;
}

int strlen(char *ptr);

int main(){
  char a[] = "hello world";
  printf("length is %d\n", strlen(a));
}
```

Copying string

```
void strcpy(char *src, char *dest)
{
  while(*src)
  {
    *dest = *src;
    dest++; src++;
  }
}
```