C Programming

Trainer : Smita Kadam

Email ID : smita@sunbeaminfo.com

Qualifiers

- C language supports 2 qualifiers
  - const
  - Volatile

```
const float PIE = 3.14;    //float in PIE is constant here
```

Points To Note:

Need to initialise at the time of declaration.
Utilises memory depends on data type location to which it is applied.
Can be modified using pointer.

Qualifier - const

- char arr[] = “Sunbeam”;

- char const *s = arr;
  - Here s is pointing to arr’s base address. Value at memory where s is pointing to is constant here but s is not constant.

- char const * const = arr;
  - Here s is pointing to arr’s base address. Value at memory where s is pointing to is constant also s is constant.

void Pointer

- A generic pointer who can store address of any type location

- float fval=34.56;
- char ch = ‘A’
- void *vptr = &fval;
- void *vptr = &ch;

- **Points to note :**

  Unknown scale factor

  Need to typecast prior to its use.

  *(float *)vptr

  *(char *)vptr

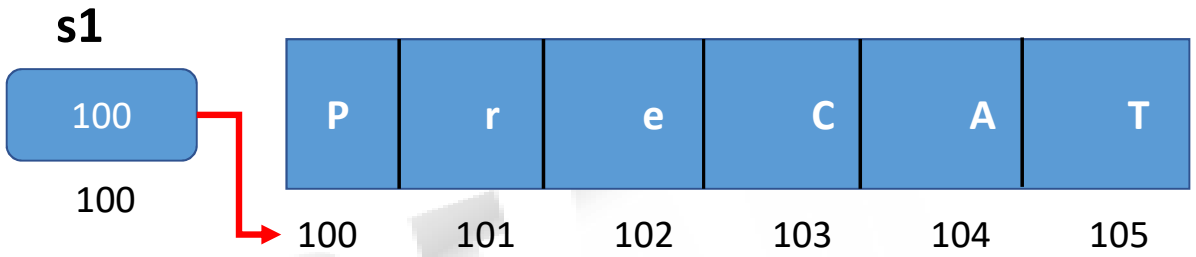
String

- Not a primitive data type

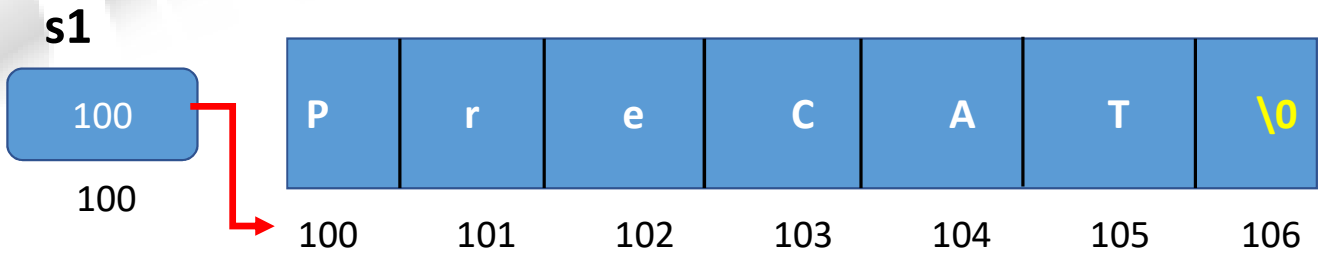
- C compiler provides special library function to handle strings. These library functions are declared in string.h
  - e.g.
  - strlen
  - strcpy
  - strcmp
  - strcat
  - strstr
  - strupr
  - strlwr
  - strrev
  - strchr

String

- **Character Array :**
  - Collection of character elements
  - char s1[5] = {'P','r','e','C','A','T'};



- **String:**
  - Collection of character elements with sentinel element '\0'
  - char s1[] = {'P','r','e','C','A','T','\0'};
  - char s1[] = "PreCAT";
  - char *s1 = "PreCAT";



- **Size :**
  - Always need to reserve 1 byte extra for sentinel element NULL

Thank you!