

CD

Jackfruit Problem

Name: Rohit Yakkundi

SRN: PES2UG23CS819

1.syntax.c

Program:

```
#include <stdio.h>

int main(){
    for(int i = 0; i < 15; i++){
        printf("%d\n", i);
    }
    return 0;
}
```

Output:

```
pes2ug23cs819@rohitcd :~/CD-Last/Files$ clang syntax.c -c -emit-llvm -S -O0
pes2ug23cs819@rohitcd :~/CD-Last/Files$ clang syntax.ll -o syntax.exe
./syntax.exe
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
```

2.hello.c

Program

```
#include <stdio.h>

int main(){
    printf("Hello World!");
    return 0;
}
```

Output:

```
pes2ug23cs819@rohitcd:~/CD-Last/Files$ clang hello.c -c -emit-llvm -S -O0
pes2ug23cs819@rohitcd:~/CD-Last/Files$ clang hello.ll -o hello.exe
pes2ug23cs819@rohitcd:~/CD-Last/Files$ ./hello.exe
Hello World!
```

3.nameSec.ll

Program :

```
@s1 = constant [50 x i8] c"Hi!\0a- Rohit Yakkundi G Section SRN:PES2UG23CS819 \00"

declare i32 @printf(i8*, ...)

define i32 @main() {
    %s1_ptr = getelementptr [35 x i8], [35 x i8]* @s1, i32 0, i32 0
    call i32 @printf(i8*, ...) @printf(i8* %s1_ptr)
    ret i32 0
}
```

Output:

```
pes2ug23cs819@rohitcd:~/CD-Last/Files$ clang nameSec.ll -o nameSec.exe
warning: overriding the module target triple with x86_64-pc-linux-gnu [-Woverride-module]
pes2ug23cs819@rohitcd:~/CD-Last/Files$ ./nameSec.exe
Hi!
- Rohit Yakkundi G Section SRN:PES2UG23CS819
```

4.script.py

Program:

```
llvm = r'''@s1 = constant [50 x i8] c"Hi!\0a- Name: Rohit Yakkundi \0a- Srn:
PES2UG23CS819\0a\00"

declare i32 @printf(i8*, ...)

define i32 @main() {
    %s1_ptr = getelementptr [48 x i8], [48 x i8]* @s1, i32 0, i32 0
    call i32 @printf(i8*, ...) @printf(i8* %s1_ptr)
    ret i32 0
}
'''

with open('output.ll', 'w') as file:
    file.write(llvm)
```

Output:

```
pes2ug23cs819@rohitcd :~/CD-Last/Files$ python3 script.py
pes2ug23cs819@rohitcd :~/CD-Last/Files$ clang output.ll -o output.exe
warning: overriding the module target triple with x86_64-pc-linux-gnu [-Woverride-module]
1 warning generated.
pes2ug23cs819@rohitcd :~/CD-Last/Files$ ./output.exe
Hi!
- Name: Rohit Yakkundi
- Srn: PES2UG23CS819
```