Assignment: Data Type:

Evaluate the below program and see the difference.

1. main.c
---------- 	
int x = 10;
void inc(void);
int main()
{
inc();
inc();
inc();
}
inc.c
---------- 	
void inc(void)
{
extern int x;// also try without extern.
++x;
}
Note: compile two files as
$gcc main.c inc.c
	2. main.c
	---------- 	
	static int x = 10;
	void inc(void);
	int main()
	{
	inc();
	inc();
	inc();
	}
	inc.c
	---------- 	
	void inc(void)
	{
	extern int x;
	++x;
	}
	Note: compile two files as
	$gcc main.c inc.c

3.
int x=10;
int main()
{
int y=x;
int z=y;
printf(“%d %d %d”,x,y,z);
}
	4.
	int main()
	{
	int a=1;
	switch(a)
	{
	int b=5;
	case 1: printf(“b=%d\n”,b);

5.

```
//main.c
int i;
static void inc(void)
{
i++;
}
int main()
{
inc();
inc();
printf(“%d”, i);
}
```

```
}}
void inc(void)
{
int i;
++i;
}
```

Note: compile along with program in 5. as

$ gcc main.c inc.c

Also observe the a.out content.

$ nm a.out

6.

```
//this source file name is main.c
#include<stdio.h>
int sum(int,int);
int main()
{
int x=10,y=20;
printf(“%d”,sum(x,y));
}
2. // this file name is sum.c
int sum(int a, int b)
{
return a+b;
}
```

Note: compile this file sum.c using gcc ..)

7.

```
 int main() {
register int x = 10;
 printf(\"%p\\n\", &x);
return 0;
}
```

8.

```
int a, b, c = 0;

void print_fun(void);

void main()
{
   static int a = 1;
   print_fun();
   a += 1;
```

9.

```
#include
int tmp=20;
main( )
{
printf("%d ",tmp);
func( );
printf("%d ",tmp);
}
func( )
```

```
   print_fun()
printf("\n %d %d ", a, b);
}

void print_fun(void)
{
   static int a = 2;
   int b = 1;
   a += ++b;
   printf("\n %d %d ", a, b);
}
```

```
{
static int tmp=10;
printf("%d ",tmp);
}
```

11.

```
#include <stdio.h>
int f(int n)
{
   static int r = 0;
   if (n <= 0) return 1;
   if (n > 3)
   {
      r = n;
      return f(n-2)+2;
   }
   return f(n-1)+r;
}

int main()
{
   printf("%d", f(5));
}
```

12.

```
#include <stdio.h>
int main()
{
  extern int i;
  printf("%d ", i);
  {
     int i = 10;
     printf("%d ", i);
  }
}
```

13.

```
#include <stdio.h>
int fun(int n)
{
   static int s = 0;
   s = s + n;
   return (s);
}

int main()
{
   int i = 10, x;
   while (i > 0)
   {
      x = fun(i);
      i--;
```

14.

```
#include <stdio.h>
int main()
{
  int x = 10;
  static int y = x;

  if(x == y)
    printf("Equal");
  else if(x > y)
    printf("Greater");
  else
    printf("Less");
  return 0;
}
```

}
printf ("%d ", x);
return 0;
}
	15.
	#include <*stdio.h*>
	int fun()
	{
	static int num = 16;
	return num--;
	}
	
	int main()
	{
	for(fun(); fun(); fun())
	printf("%d ", fun());
	return 0;
	}

16. Write the differences between all storage classes.	