1. typedef struct{
char *;
nodeptr next;
} * nodeptr;
what does nodeptr stand for?
ans:

2. int *x[](); means

ans:expl: Elments of an array can't be functions.

3. struct list{
int x;
struct list *next;
}*head;
the struct head.x =100
Ans: above is correct / wrong
expl: **Before using the ptr type struct variable we have to give memory to that .And also when ever the struct variable is ptr then we access the members by "->" operator.**

4.

```
main()
      {
      int i;
      i=1;
      i=i+2*i++;
      printf(%d,i);}
```

ans: 4

5.

```
main()
      {
            FILE *fp1,*fp2;
           fp1=fopen("one","w")
           fp2=fopen("one","w")
      fputc('A',fp1)
           fputc('B',fp2)
           fclose(fp1)
           fclose(fp2)}
```

a.error b. c. d.
ans: no error. But It will over writes on same file.

6.

```
#include<malloc.h>
           char *f()
      {char *s=malloc(8);
                  strcpy(s,"goodbye");}
       main()
```

```
{
 char *f();
 printf("%c",*f()='A');}
 o/p=?
```

for strcpy function string.h header file should be included

semicolon is missing in strcpy function

leftside function call can come when it is returning some pointer so `*p='A';`

7.
```
#define MAN(x,y) (x)>(y)?(x):(y)
main()
      { int i=10,j=5,k=0;
      k= MAX(i++,++j);
      printf("%d %d %d ",i,j,k);
      }
```

ans. 12 6 11

8.
```
main()
      {
      int a=10,b=5, c=3,d=3;
      if (a<b)&&(c=d++)
      printf("%d %d %d %d", a,b,c,d);
      else
      printf("%d %d %d %d", a,b,c,d);
      }
```

ans: 10 5 3 3 Note: if condition should be in braces

9.
```
main()
      {
      int i = 10;
      printf(" %d %d %d \n", ++i, i++, ++i);
      }
```

ans: 13 11 11

10.
```
main()
      {
            int *p, *c, i;
            i = 5;
            p = (int*) (malloc(sizeof(i)));
            printf("\n%d",*p);
      *p = 10;
      printf("\n%d %d",i,*p);
      c = (int*) calloc(2);
```

```
            printf("\n%d\n",*c);
            }
```

Note: calloc function has less parameters calloc(n, elemsize)

```
      main()
            {
            int *p, *c, i;
            i = 5;
            p = (int*) (malloc(sizeof(i)));
            printf("\n%d",*p);
            *p = 10;
            printf("\n%d %d",i,*p);
            c = (int*) calloc(2,2);
            printf("\n%d\n",*c);
            }
```

ans: garbage, 5, 10, 0 (malloc gives garbage and calloc initializes with zeros)

```
11.   #define MAX(x,y) (x) >(y)?(x):(y)
             main()
            {
            int i=10,j=5,k=0;
                  k= MAX(i++,++j);
                  printf("%d..%d..%d",i,j,k);
                  }
```

ans: 12 6 11

```
12.   main()
                  {
                  enum  _tag{ left=10, right, front=100, back};
            printf("left is %d, right is %d, front is %d, back is %d",left,right,front,back);
                  }
```

ans: left is 10, right is 11, front is 100, back is 101

```
13.   main()
            {
             int a=10,b=20;
             a>=5?b=100:b=200;
             printf("%d\n",b);
            }
```

ans: lvalue required for ternary operator

```
14.   #define PRINT(int) printf("int = %d ",int)
```

```
main()
      {
      int x,y,z;
      x=03;y=02;z=01;
      PRINT(x^x);
      z<<=3;PRINT(x);
      y>>=3;PRINT(y);
     }
```

ans: int = 0 int = 3 int = 0

15.
```
main()
      {
      char s[] = "Bouquets and Brickbats";
      printf("\n%c, ",*(&s[2]));
      printf("\n%s, ",s+5);
      printf("\n%s,",s);
      printf("\n%c",*(s+2));
      }
```

ans: u,
ets and Brickbats,
Bouquets and Brickbats,
u

16.
```
main()
     {
     struct s1
     {
     char *str;
     struct s1 *ptr;
     };
     static struct s1 arr[] = { {"Hyderabad",arr+1},
          {"Bangalore",arr+2},
          {"Delhi",arr}
          };
          struct s1 *p[3];
          int i;
          for(i=0;i<=2;i++)
          p[i] = arr[i].ptr;

          printf("%s\n",(*p)->str);
          printf("%s\n",(++*p)->str);
          printf("%s\n",((*p)++)->str);

     }
```

ans: Bangalore
Delhi
Delhi

17.
```
main()
```

```
{
char *p = "hello world!";
p[0] = 'H';
printf("%s",p);
}
```

ans: Hello world

18.
```
main()
{
 int x=1,y=1;
 while( (x > 0) && (y > 0) )
 {
  printf("%16d%16d",x,y);
  x += y;
  y += x;
  }
}
```

ans: here x = x+y and y = x+2y when y goes beyond 32767 it falls in –ve side and loop breaks

19.
```
int f(int p)
{
int i = 0, t = 1, s = 1;
while( s <=
p)
      {
      i++;
      t += 2;
      s += s;
      }
return i;
}
```

ans: this function gives the no. of bits required to represent a number in binary form

20. remove the duplicate from a sorted array.

21. fibonacci series upto 100 recursively.

22.
```
main()
      {
      char c[]={ " enter" , "first" , "print" , "new" }.;
      char **cp[]={c+3, c+2, c+1, c};
      char ***cpp[]=cp;
      printf("%s", ++*cp);
      printf("%s",--*++cp);
      }
```

ans: lvalue required for second printf statement

23. GCD and LCM programs

24. Write a program to print
```
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5.
```

ans:
```
main()
      {
      int i,j;
      for(i=1;i<=5;i++)
      {
      printf("\n");
      for(j=i;j>0;j--)
      printf("%d",i);
      }
```

25.
```
double what( double z, int y)
{
double answer = 1;

while( y > 0 )
{
```

```
if( y%2 == 1)
answer = answer * z;
y=y/2;
z=z*z;
}
return answer;
}
```

ans: z power y

26. Program for square root.

27. Write program to print

```
1
2 3
4 5 6
7 8 9 10
11 12 13 14
```

ans:

```
main()
      {
      int i,j,k;
            k = 1;
      for(i=1;i<=5;i++)
      {
      for(j=i;j>0;j--)
      printf("%d",k++);
            printf("\n");
      }
```

28. write a function maxsubstring(str,alpha,theta) str is the source string and have to return maximum substring which starts with alpha and ends with theta.

ans:

```
main()
      {
      int i,j=0,k;
      char st = 'x';
      char en = 'y';
      char p[]="abxabcdyxabcdabcydabcdxabycd";
      char *str;

      for(i=0;p[i]!='\0';i++)
      {
```

```
if(p[i] == st)
break;
}
if(p[i]=='\0')
{
printf("\n starting character not found\n");
exit(0);
}
str = &p[i];
k=i;
while(p[++i]!='\0')
if(p[i] == en)
j=i;
if(j==0)
printf(" ending character not found\n");
else
for(;k<=j;k++)
printf("%c",*str++);
}
```

29. How do you write a program which produces its own source code as its output?

How can I find the day of the week given the date?

Why doesn't C have nested functions?

What is the most efficient way to count the number of bits which are set in a value?

ans: K. Ritchie

How can I convert integers to binary or hexadecimal?

ans: K. Ritchie

How can I call a function, given its name as a string?

ans: function pointers

How do I access command-line arguments?

How can I return multiple values from a function?

ans: using pointer or structures

How can I invoke another program from within a C program?

ans: using system function

How can I access memory located at a certain address?

How can I allocate arrays or structures bigger than 64K?

How can I find out how much memory is available?

How can I read a directory in a C program?

How can I increase the allowable number of simultaneously open files?

What's wrong with the call "fopen("c:\newdir\file.dat", "r")"?

30.
```
main()
      {
      int x=10,y=15;
      x=x++;
      y=++y;
      printf("%d %d\n",x,y);
      }
```

ans: 11 16

31.
```
int x;
main()
      {

      int x=0;
      {
      int x=10;
      x++;
      change_value(x);
      x++;
      Modify_value();
      printf("First output: %d\n",x);
      }
      x++;
      change_value(x);
      printf("Second Output : %d\n",x);
      Modify_value();
      printf("Third Output : %d\n",x);
      }

Modify_value()
{
return (x+=10);
}
```

```
change_value()
{
return(x+=1);
}
```

ans:

First output : 12
Second output : 1
Third output : 1

32.
```
main()
      {
      int x=20,y=35;
      x = y++ + x++;
      y = ++y + ++x;
      printf("%d %d\n",x,y);
      }
```

ans: 57 94

33.
```
main()
      {
      char *p1="Name";
      char *p2;
      p2=(char *)malloc(20);
      while(*p2++=*p1++);
      printf("%s\n",p2);
      }
```

ans: No output since p2 is at null character to get output modify the program given below. (Note: <malloc.h> should be included)

```
      {
      char *p1="Name";
      char *p2,*p3;
      p2=(char *)malloc(20);
      p3=p2;
      while(*p2++=*p1++);
      printf("%s\n",p3);
      }
```

34.
```
main()
      {
      int x=5;
      printf("%d %d %d\n",x,x<<2,x>>2);
```

```
}
```

ans: 5 20 1

35.
```
#define swap1(a,b) a=a+b;b=a-b;a=a-b;
main()
      {
      int x=5,y=10;
      swap1(x,y);
      printf("%d %d\n",x,y);
      swap2(x,y);
      printf("%d %d\n",x,y);
      }

int swap2(int a,int b)
{
int temp;
temp=a;
b=a;
a=temp;
return;
}
```

ans:
10 5
10 5

36.
```
main()
      { char *ptr = "Ramco Systems";
      (*ptr)++;
      printf("%s\n",ptr);
      ptr++;
      printf("%s\n",ptr);
      }
```

ans:
Samco Systems
amco Systems

37.
```
main()
      { char s1[]="Ramco";
      char s2[]="Systems";
      s1=s2;
      printf("%s",s1);
      }
```

ans: lvalue required (s1 is base address of array)

38.
```
main()
      {
      char *p1;
      char *p2;
      p1=(char *) malloc(25);
      p2=(char *) malloc(25);
      strcpy(p1,"Ramco");
      strcpy(p2,"Systems");
      strcat(p1,p2);
      printf("%s",p1);
      }
```

ans: RamcoSystems (Note: <malloc.h> should be included)

39. A code like this is given.
a. for(i=0;i<num;i++)
b. for(i=num;i>0;i--)
Assuming no code optimization and assume that the microprocessor
has flags etc. which one is faster.

Ans: b will execute faster.

40.
```
main()
      {
      int a=1,b=2,c=3;
      printf("%d,%d",a,b,c);
      }
```

ans: 1, 2

41.
```
main()
      {
      struct
      {
      char a[3];
      int b;
      }x;
      char *cp;
      printf("%d %d",sizeof(cp),sizeof(x));
      }
```

**ans: 4 5 since pointer cp stores address(32-bit) 4 bytes it takes and
and x takes 5 bytes(3 for character array a and 2 for int b)**

42.
```
main()
      {
      int p=3,q=4;
      q = shw(&p);
      printf("%d %d",p,q);
      }

      int shw(int *a)
      {
       *a = 10;
      }
```

ans: 10 garbage

43. write 7*a interms of +,-,<<

ans: (x<<3-x)

44.
```
main()
      {
      char *s1 = "hello",*s2 ="abce";
      strcpy(s1,"");
      s2[0] = s1[0];
      printf("%d%d",strlen(s1),strlen(s2));
      }
```

ans: 0 0

45.
```
main()
      {
      int i=10;
      printf("%d%d%d",i,i++,++i);
      }
```

ans: 12 11 11 (compiler dependent)

46. const char *
char * const
What is the differnce between the above two?

ans: const char * pointer to a constant character
char * const constant pointer pointing to a character

47.
```
main()
      {
```

```
char *x="new";
char *y="dictonary";
char *t;
void swap (char * , char *);
swap (x,y);
printf("(%s, %s)",x,y);

char *t;
t=x;
x=y;
y=t;
printf("-(%s, %s)",x,y);
}
void swap (char *x,char *y)
{
char *t;
y=x;
x=y;
y=t;
}
```

ans: multiple declaration of t and all declarations should be before executable statement(errors)

48.
```
main()
{
char p[]="string";
char t;
int i,j;
for(i=0,j=strlen(p);i<j;i++)
{
t=p[i];
p[i]=p[j-i];
p[j-i]=t;
}
printf("%s",p);
}
```

ans: will not print anything since p will be pointing to a null string

49.
```
main()
{
int i=10;
printf("%d %d %d",i,++i,i++);
}
```

ans: 12 12 10 (compiler dependent)

50.
```
main()
      {
      void f(int,int);
      int i=10;
      f(i,i++);
      }
      void f(int i,int j)
      {
      if(i>50)
      return;
      i+=j;
      f(i,j);
      printf("%d,",i);
      }
```

ans: 51 41 31 21 (i=11, j=10 for function 'f')

51.
```
main()
      {
      void f(int,int);
      int i=10;
      f(i,++i);
      }
      void f(int i,int j)
      {
      if(i>50)
      return;
      i+=j;
      f(i,j);
      printf("%d,",i);
      }
```

ans: 55 44 33 22 (i=11, j=11 for function 'f')

52.
```
main()
      {
      char *s="hello world";
      int i=7;
      printf("%.*s",i,s);
      }
```

ans: hello w

53.
```
main()
      {
      int a,b;
      printf("enter two numbers :");
      scanf("%d%d",a,b);
      printf("%d+%d=%d",a,b,a+b);
      }
```

ans: will generate run time error /core dump

54.
```
main()
      {
      union{
      int x;
      char y;
      struct {
      char x;
      char y;
      int xy;}p;
      }q;
      printf("\n %d,%d",sizeof(q),sizeof(int));
      }
```

ans: 4,2

55.
```
main()
      {
      char *x="String";
      char y[] = "add";
      char *z;
      z=(char *) malloc(sizeof(x)+sizeof(y)=1);
      strcpy(z,y);
      strcat(z,x);
      printf("%s+%s=%s",y,x,z);
      }
```

ans: add+String=addString

56. an arrey of n pointers to function returning pointers to functions returning pointers to characters

ans: char * (* (*x[n]) ()) ()

pointer to array of int, char etc., this is array pointer

ans: int (*x)[] char (*x)[]

array of pointer to int, char etc., this is pointer array

ans: int *x[] char *x[]

function returning pointer to int, char etc.,

ans: int *x() char *x()

pointer to function returning int, char etc.,

ans: int (*x)() char (*x)()

function returning pointer to array of pointer to function returning char

ans: char (*(*x()) []) ()

array of pointer to function returning pointer to array of char

ans: char (*(*x[]) ()) []

57.
```
main()
{
enum number { a=-1, b= 4,c,d,e};
printf("%d",e);
}
```

ans: 7

58.
```
main()
{
int i=0;
for(i=0;i<20;i++)
{
switch(i)
{2
case 0:i+=5;
case 1:i+=2;
case 5:i+=5;
default: i+=4;
break;}
printf("%d,",i);
}
}
```

ans: 16,21 (after case and default colon should be there)

59.
```
main()
{
int i, count, x=1;
for(i=0, count=0;i<16;i++)
if( !(x&(1<<i)) )
count++;
printf("%d",count);
}
```

ans: 15 (no. of zeros)

60.
```
main()
      {
      int i, count, x=1;
      for(i=0, count=0;i<16;i++)
      if(x&(1<<i) )
      count++;
      printf("%d",count);
      }
```

ans: 1 (no. of ones)

61. which one will over flow given two programs
prog 1: prog2:

```
main()                    main()
{                         {
int fact;                 int fact=0
long int x;               for(i=1;i<=n;i++)
fact=factoral(x);         fact=fact*i;
}                         }
```

```
int factorial(long int x)
{
if(x>1) return(x*factorial(x-1);
}
```

ans: program 1 (program 2 is always zero since fact =0)

62.
```
main()
      {
      char str[5]="hello";
      if(str==NULL) printf("string null");
      else printf("string not null");
      }
```

ans: string not null

63.
```
void f(int value)
      {
      for (i=0;i<16;i++)
      {
      if(value &0x8000>>1) printf("1")
      else printf("0");
      }
      }
```

ans: binary output of value

64.
```
void f(int *p)
{
```

```
static val=100;
val=&p;
}
main()
{
int a=10;
printf("%d ",a);
f(&a);
printf("%d ",a);
}
```

ans: nonportable pointer conversion (we can't store address in integer variable, we have to take pointer to store address)

65.
```
main()
{
int x, *y;
x = y;
printf("%d",x);
}
```

ans: nonportable pointer conversion

66.
```
# define f(a,b) a+b
#define g(c,d) c*d
find value of f(4,g(5,6))
```

ans: 34

67.
```
main()
{
char a[10]="hello";
strcpy(a,'\0');
printf("%s",a);
}
```

ans: arguments must be a string constant or character array variable
here it is constat character not a string constant.
Hence program error

68.
```
char a[5][15];
int b[5][15];
address of a 0x1000 and b is 0x2000 find address of a[3][4]
and b[3][4]
interger takes 32-bits and character takes 8-bits
```

ans: a[3][4] = 0x1031 b[3][4] = 0x20C4
(Note: addresses are in hexadecimal)

69. Given an interger in binary form,find the number of ones in that number without counting each bit.(This questin is not multiple choice question. This question carries more marks. So please take care for this question.)

ans: K.Ritchie

70.
```
main()
      {
      a=2;
      b=3;
      x=SUM(a,b)*2;
      printf("x=%d\n",x);
      }
```

ans: 8

71.
```
number(int i)
{
number++;
printf("%d\n",number);
}

main()
{
static int i=0;
number(i);
}
```

ans: lvalue required (function name is an address. So ++ operator should not be applied)

72.
```
main()
      {
      unsigned char i;
      int sum;
      for(i=0; i<300; i++)
      sum+ = i;
      printf("\nSum = %d\n", sum);
      }
```

ans: infinite loop

73.
```
void fn(int *p)
{
static int val = 100;
p = &val;
}
```

```
main()
{
int i=10;
printf("i=%d\n", i);
fn(&i);
printf("i=%d\n", i);
}
```

ans: i=10
i=10

74. Swapping without using a temporary variables. (3 methods)

ans:

```
x = x+y;
y = x-y;
x = x-y;

x = x^y;
y = x^y;
x = x^y;

x = x*y;
y = x/y;
x = x/y;
```

75. Code 1 :

```
for(i=0; i<1000; i++)
for(j=0; j<100; j++)
x = y;
```

Code 2 :

```
for(i=0; i<100; i++)
for(j=0; j<1000; j++)
x = y;
```

Which code will execute faster

ans: Code2 (Code 1 = 1,01000 increment operations)
(Code 2 = 1,00100 increment operations)

76.

```
main()
      {
      int a[10] = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}, i, x=10,
      temp;
      for(i=0; i<x; i++){
      temp = a[i];
      a[i] = a[x-i-1];
      a[x-i-1] = temp;
      }
```

ans: remains same

77.
```
main(0
      {
      int i = 1;
      fork();
      fork();
      printf("\ni = %d\n", i+1);
      }
```

ans: 4 printfs will occur and i = 2

78.
```
#define MAX(a, b) a>b ? a:b
main()
{
int m, n;
m = 3 + MAX(2, 3);
n = 2 * MAX(3, 2);
printf("m = %d, n = %d\n", m, n);
}
```

ans: m = 2, n = 3

79.
```
main()
      {
      int i=10;
      fork();
      fork();
      fork();
      printf("%d”,i);
      }
```

ans: 8 printfs will occur and i = 10 (2 power no. of forks times printfs)

80.
```
#define f(a,b) a+b
#define g(a,b) a*b

main()
{
int m;
m=2*f(3,g(4,5));
printf("\n m is %d",m);
}
```

ans: m is 26

81.
```
main()
      {
```

```
        char a[10];
        strcpy(a,"\0");
        if (a==NULL)
        printf("\a is null");
        else
        printf("\n a is not null");
        }
```

ans: a is not null

82.
```
main()
        {
        char a[5]="hello";
        printf("%s",a);
        }
```

ans: array size is small it should be 6

83.
```
main()
        {
        unsigned int x=-1;
        int y;
        y = ~0;
        if(x == y)
        printf("same");
        else
        printf("not same");
        }
```

ans: same (-1 is stored in 2's complement form)

84.
```
char *gxxx()
{
static char xxx[1024];
return xxx;
}

main()
{
char *g="string";
strcpy(gxxx(),g);
g = gxxx();
strcpy(g,"oldstring");
printf("The string is : %s",gxxx());
}
```

ans: The string is : oldstring

85.
```
void myalloc(char *x, int n)
{
x= (char *)malloc(n*sizeof(char));
```

```
memset(x,'\0',n*sizeof(char));
}
main()
{
char *g="String";
myalloc(g,20);
strcpy(g,"Oldstring");
printf("The string is %s",g);
}
```

ans: The string is Oldstring

86.
```
main()
{
char p[]="String";
int x=0;
if(p=="String")
{
printf("Pass 1");
if(p[sizeof(p)-2]=='g')
printf("Pass 2");
else
printf("Fail 2");
}
else
{
printf("Fail 1");
if(p[sizeof(p)-2]=='g')
printf("Pass 2");
else
printf("Fail 2");
}
```

ans: Fail 1Pass 2

87. A code which had some declarations of some data items. There were a couple of normal data items (char, int..) and some pointers as well and a malloc call. You have to find the total memory taken up in the stack (Hint: Pointers and all are allocated in heap, not in stack, so don't count them).Also in most of these questions, they were specifying that the OS was 32 bit.

88. A structure was given and it contained normal data as well as some bit-wise data. You had to find the total size taken up by the structure

89. Pointer to a function which returned an array of char pointers

ans: char *((*x)()) []

90. Value of 2 particular variables in C(MAXINT and some other constant)

91. What do you need to do to open more than 10 files simultaneously in Microsoft Operating System?

ans: change stdio.h/change CONFIG.SYS/compiler dependent

92.
```
main()
      {
      int i=7;
      i = i++*i++;
      printf("%d\n",i);
      i=7;
      printf("%d %d\n",i ,i++*i++);
      i=2;
      printf("%d %d\n" ,i,   i++*++i*i++*i++);
      i=1;
      printf("%d %d %d\n", i,    i++*i++,     i++*i++*++i*i+
+);
      i=1;
      printf("%d %d %d\n" ,i,    i++*i++,    i++*i++*++i*i+
+*i++*++i);
      }
```

ans: **51**
9 56
6 160
7 30 32
9 56 1120

93.
```
main()
      {
      int d ;
      int i=10;
      d =sizeof(++i);
      printf("%d",d);
      }
```

ans: 2

94.
```
char *f();
main()
      {
      char*a,*f();
      a=(char*)malloc(20*sizeof(char));
      a=f();
      printf("%s",a);
      }
      char *f()
```

```
      {static char n[20];
      strcpy(n,"Hello World");
      return(n);
      }
```

ans: Hello World

95.
```
char *f();
main()
      {
      char*a,*f();
      a=(char*)malloc(20*sizeof(char));
      a=f();
      printf("%s",a);
      }
      char *f()
      {char n[20];
      strcpy(n,"Hello World");
      return(n);
      }
```

ans: unpredictable output. auto variable address should not be returned. It will lose its scope when it comes out of the block.

96.
```
char *f()
main()
      {
      char *a,*f();
      a=f();
      printf("%s",a);
      }
      char *f()
      {return("Hello World");}
```

ans: Hello World

97.
```
what is the error
main()
      {int j=10;
      switch(j)
      {case 20:
      pritnf("Less than 20");
      break;
      case 30:
      printf("Less than 30");
      break;
      default:
      printf("hello");
      }
```

ans: printf not pritnf and one brace } is missing

98. which is valid :
(i)char arr[10];
arr="hello";
(ii) char arr[]="hello";

ans: second is correct. In first lvalue required.

99.
```
main()
      {
      char *str;
      str=(char*)malloc(20*sizeof(char));
      strcpy(str,"test");
      strcat(str,'!');
      printf("%s",str);
      }
```

ans: strcpy function arguments should be either a character array variable or a string constant. Instead of '!' give "!"

100. How many times main is get called
```
main()
      {
      printf("Jumboree");
      main();
      }
```

ans: till stack overflow

101.
```
main()
      {
      int i;
      if(i=0)
      printf(" Hell ");
      else
      printf("Heaven");
      }
```

ans: Heaven

102.
```
main()
      {
      int i,j;
      for(i=0,j=0;i<5,j<25;i++,j++);
      printf("%d %d",i,j);
      }
```

ans: 25 25 A pair of expressions separated by a comma is evaluated left to right, and the type and value of the result are the type and value of the right operand. Here we've to consider j<25 condition.

103. 1)pointer to a function.
2)pointer to structure.
3)static variable and difference b/w(const char *p,char const *p,const char* const p).
4)pass by value & reference.
5)string library functions(syntax).
6)Write a program to compare two strings without using the strcmp() function.
7)Write a program to concatenate two strings.
8)Write a program to interchange 2 variables without using the third one.
9)Write programs for String Reversal & Palindrome check .
10)Write a program to find the Factorial of a number.
11)Write a program to generate the Fibinocci Series.
12)searching and sorting alogorithms with complexities.

104. Theory question about far pointers.

ans: Far pointers are 4 bytes in size and local pointers are 2 bytes in size. important: i saw in a previous question paper of accenture which is in the chetana database, some lady wrote that size of an integer in C is 2 bytes and for C++ it is 4 bytes. This is absurd.The size of types is entirely dependent on the compiler used.for DOS Turbo C sizeof int is 2 and float is 4 bytes for windows borland C,C++ size of int is 4 bytes for linux gcc, size of int is 2 bytes. All these depends on the Operating system.Please keep this in mind.

105.
```
main()
      {
      char str[]={"hell"};
      int i;
      for(i=0;i<5;i++)
      printf("%c%c%c%c\n",str[i],i[str],*(str+i),*(i+str));
      }
```

ans:
```
hhhh
eeee
llll
llll
```

106. inline function does type checking and so it is better than a macro

107.
```
main()
      {
```

```
int i = 10;
int j = i >> 10;
printf("%d",j);
}
```

ans: 0

108.
```
char *str = "Hello";
char arr[] = "Hello";
arr++; // ERROR..its like a pointer constant
*(arr + 1) = 's';
cout<<arr; // o/p: Hsllo
```

109.
```
struct Date
             {
              int yr;
              int day;
              int month;
             } date1,date2;

             date1.yr = 2004;
             date1.day = 4;
             date1.month = 12;
             now how will you initialize date2 (without member
             by member assignment)
```
ans: date2 = date1;

110.
```
main()
      {
      extern int a;
      printf("%d",a);;
      }
      int a=20;
```

ans: 20

111.
```
main()
      {
      int a[5]={2,3};
      printf("\n %d %d %d",a[2],a[3],a[4]);
      }
```

ans: 0 0 0 if there are fewer initializers uninitialized variables are zero

112.
```
main()
      {
       inti=-3,j=2,k=0,m;
       m=++i&&++j||++k;
       printf("\n %d %d %d %d",i,j,k,m);
      }
```

ans: -2 3 0 1

113.
```
main()
{
int a,b;
a=sumdig(123);
b=sumdig(123);
printf("%d %d",a,b);
}
sumdig(int n)
{
static int s=0;
int d;
if(n!=0)
{
d=n%10;
n=(n-d)/10;
s=s+d;
sumdig(n);
}
else return(s);
}
```

ans: 6 12

114.
```
#define CUBE(x)  (x*x*x)
main()
{
int a,b=3;
a=CUBE(b++);
printf("\n %d %d",a,b);
}
```

ans: 27 6

115.
```
main()
{
const int x=get();
printf("%d",x);
}
get()
{
return(20);
}
```

ans: 20 for auto variables initializers can be function calls or some expressions. But for static initializers should constants or constant expressions.

116. A function has this prototype void f1(int **x), How will you call this function?

{a) int **a; (b) int a; (c) int *a; (d) int a=5;

f1(a); f1(&a); f1(&a); f1(&&a);

ans: int *a; f1(&a);

117.
```
main()
{
int l=1;
for(;;)
{
printf("%d",l++);
if(l>10)
break;
}
}
```

ans: 12345678910

118.
```
main()
{
char str[5]="fast";
static char *ptr_to_array = str;
printf("%s",ptr_to_array);
}
```

ans: error. for auto variables initializers can be function calls or some expressions. But for static initializers should constants or constant expressions.

119.
```
main()
{
char str[5]="fast";
char *ptr_to_array = str;
printf("%s",ptr_to_array);
}
```

ans: fast. for auto variables initializers can be function calls or some expressions. But for static initializers should constants or constant expressions.

120.
```
main()
{
int i=10;
fn(i);
printf("%d",i);
}
```

```
fn(int i)
{
return ++i;
}
```

ans: 10

121.
```
main()
{
int i,j;
i=10;
j=sizeof(++i);
printf("%d",i);
}
```

ans: 10

122.
```
main()
{
struct emp
{
char name[20];
int age;
float sal;
};
struct emp e = {"tiger"};
printf("\n %d %f",e.age,e.sal);
}
```

ans: 0 0.000000 If there are fewer initializers in the list than members of the structure the trailing members are initialized with zero. There may not be more initializers than members.

123.
```
main()
{
char i=0;
for(;i>=0;i++) ;
printf("%d\n",i);
}
```

ans: -128

124.
```
typedef enum grade{GOOD,BAD,WORST,}BAD;
main()
{
BAD g1;
g1=1;
printf("%d",g1);
}
```

ans: error(multiple declaration for BAD)

125.
```
#define STYLE1 char
main()
      {
      typedef char STYLE2;
      STYLE1 x;
      STYLE2 y;
      x=255;
      y=255;
      printf("%d %d\n",x,y);
      }
```

ans: -1 -1

126.
```
#ifdef TRUE
int I=0;
#endif

main()
      {
      int j=0;
      printf("%d %d\n",i,j);
      }
```

ans: error since i is not declared

127.
```
main(0
      {
      char *pDestn,*pSource="I Love You Daddy";
      pDestn=(char *)malloc(strlen(pSource));
      strcpy(pDestn,pSource);
      printf("%s",pDestn);
      free(pDestn);
      }
```

ans: I Love You Daddy

128.
```
main()
      {
      char a[5][5],flag;
      a[0][0]='A';
      flag=((a==*a)&&(*a==a[0]));
      printf("%d\n",flag);
      }
```

ans: 1

129.
```
main()
      {
      int i=5,j=5,k;
```

```
k=++i+++j;
printf("%d",k);
}
```

ans: lvalue required (++i++)

130.
```
main()
{
int b=10;
int *p=&b;
*p++;
printf("%d",*p);
}
```

ans: unknown value (value at memory location next to the memory location of b

131.
```
main()
{
int i=0,j=50
while (i<j)
{
if(<some condtn>)
{
<body of the loop>
i++
}
elseif(<some condtn>)
{   <body of the loop>
j--
}
else(<some condtn>)
{<body of the loop>
j--
}
}
```

How many times the body of the loopis going to be executed?

Ans: 50 times

132. How can you include a library code written in C++ in a source code written in C?
(Options are there)

ans. Some cross-linked platform(compiler) is required for this.

133.
```
main()
{
int a[20],i;
```

```
for(i=0;i<20;i++)
{
a[i]=i;
}
for(i=0;i<20;i++)
{
a[i]=a[20-i];
}
for(i=0;i<20;i++)
printf("%d",a[i]);
}
```

ans: unknown value 19 18 17 16 15 14 13 12 11 10 11 12 13 14 15 16 17 18 19

134.
```
main()
{
int a[20],i;
for(i=0;i<20;i++)
{
a[i]=i;
}
for(i=0;i<20;i++)
{
a[i]=a[20-i];
}
for(i=0;i<20;i++)
printf("%d",a[i]);
}
```

ans: 19 18 17 16 15 14 13 12 11 10 10 11 12 13 14 15 16 17 18 19

135.
```
void abc(int a[])
{
int k=0;int j=50;
while(k<j)
{
if(a[i]>a[j])
k++;
else
j--;
}
```
How many times the loop will occur?

Ans: 50 times

136.
```
main()
{
int a[]={5,4,3,2,1};
int x,y;
```

```
int *p=&a[2];
*p++;
x=++*p;
y=*(p++);
printf("%d %d",x,y);
}
```

ans: 3 3

137.
```
int a;
scanf("%f",&a);
```
is there any error or warning ?

ans. no compile time error but run time error

138.
```
main()
{int *p,*q;
p=(int *)1000;
q=(int *)2000;
printf("%d",(q-p));
}
```

ans: 500

139. When a 'C' function call is made, the order in which parameters passed to the function are pushed into the stack is

ans: right to left

140.
```
main()
{
extern int a;
a=10;
printf("%d",a);
}
int a=20;
```

ans: 10

141. sizeof () operator is used for

ans: data type & veriable

142.
```
main()
main()
{
int i = 2;
printf("%d %d %d %d ",i, i++,i--,i++);
}
```

ans: 3 2 3 2

143. main()
```
{
int i = 2;
printf("%old %old %old %old ",i, i++,i--,i++);
}
```

ans: 3ld 2ld 3ld 2ld

144. Scope of a global variable which is declared as static?

ans: File

145. main()
```
{
printf(" Hello \o is the world ");
}
```

ans: Hello o is the world

146. What is
int *p(char (*s)[])

ans: p is a function which is returning a pointer to integer
which takes arguments as pointer to array of characters.

147. How will u print TATA alone from TATA POWER using string copy and concate commands in C?

ans: implement strstr function

148. main()
```
{
int n = 1;
switch(n)
case 1:printf("CASE !");
case(2):printf("default");
break;
}
```

ans: error (case outside of switch and misplaced break)
all keywords in c should start with small letters

149. #define min((a),(b)) ((a)<(b))?(a):(b)
main()
```
{
int i=0,a[20],*ptr;
ptr=a;
while(min(ptr++,&a[9])<&a[8])
i=i+1;
```

```
      printf("i=%d\n",i);
      }
```

ans: i=5

150. `~(~0<<8)?`

ans: Last 8 digits are 1's rest are 0's.

151.
```
struct x
{
int I;
char s;
};
union
{
struct x y;
double j;
}z;
main()
      {
      printf("%d",sizeof (z));
      }
```

ans: 8

152.
```
main()
      {
      char a[]={'1','2','3',0,'1','2','3'};
      printf("%s",a);
      }
```

ans: 123

153.
```
main()
      {
      int a[]={'1','2','3',0,'1','2','3'};
      printf("%s",a);
      }
```

ans: 1

154.
```
main()
      {
      #define x 10
      {
      printf("%d",x);
      }
      }
```

ans: 10

155.
```
main()
{
#define x 10
{
printf("%d",++x);
}
}
```

ans: lvalue required

156.
```
main()
{
char a[]="ABCDEFGH";
printf("%d",sizeof(a));
}
```

ans: 9

157.
```
main()
{
int i=(int*)0x1000;
printf("%d",i);
}
```

ans: nonportable pointer conversion

158.
```
main(int I)
{
printf("%d",I);
}
```

ans: 1 (command line arguments)

159.
```
main()
{
printf(" %d",printf("helloworld"));
}
```

ans: helloworld 10

160.
```
main()
{
int a[2][2][6]
{{2,3,4,5,6,7}
{…….}}
printf(“%u%u%u%u”,a,*a,**a,***a);
```

assume base address is 567895

ans: 567895, 567895, 567895,2 (a, a[0], a[0][0], a[0][0][0])

161. main()
```
{
int a[2][2]={{2},{3}};
printf("%d ",a[0][0]);
printf("%d ",a[0][1]);
printf("%d ",a[1][0]);
printf("%d ",a[1][1]);
}
```

ans: 2 0 3 0

162.
```
char strbuf[]="hello ";
char *strptr="world ";
strbuf="world ";
strptr="hello";
```

ans: error (use strcpy function)

163.
```
char str1[]="hello";
char str2[]="hello";
the conditional string test (str1==str2)
returns FALSE
```

ans: use strcmp function

164. main()
```
{
int i;
char *str4="123four";
i=atoi(str4);
printf("%d",i);
}
```

ans: 123

165. main()
```
{
char loop;
for(loop='A';loop<='z';loop++)
printf("%c",loop);
}
```

ans: print characters of ascii value from 65 to 112

166. main()
```
{
char s[]={'1','2','3',0,'1','2','3'};
printf("%s",s);
```

```
}
```

ans: 123

167.
```
main()
{
char *p=”Caritor”;
*++p;
printf(“%s”,p);
*++p;
printf(“%s”,*p);
}
```

ans: aritor ritor

168. How to print “%” symbol in printf?

ans: printf(“\%”);

169. What is the max no of char in command line arguments?

ans:

170. arithmetic Operation can’t be performed on void pointers.

171.
```
main()
{
char str1[]="HELLO";
char str2[]="HELLO";
if(str1==str2)
printf("EQUAL");
else
printf("NOT EQUAL");
}
```

ans: NOT EQUAL (use strcmp function for comparing strings)

172.
```
main()
{
int s=5;
printf("%d",s,s<<2,s>>2);
}
```

ans: 5

173.
```
main()
{
int s=5;
printf("%d %d %d",s,s<<2,s>>2);
```

```
}
```

ans: 5 20 1

174.
```
main()
{
int a[2][2]={2,3};
printf("%d %d %d %d",a[0][0],a[0][1],a[1][0],a[1][1]);
}
```

ans: 2 3 0 0

175.
```
main()
{
int i=-3,j=2,k=0,m;
m= ++j&&++i&&++k;
printf("%d %d %d %d",i,j,k,m);
}
```

ans: -2 3 1 1

176.
```
main()
{
const int i=7;
printf("%d",++i);
}
```

ans: cannot modify a constant object

177.
```
#define I 6
main()
{
printf("%d",++I);
}
```

ans: lvalue required

178.
```
main()
{
int a[2][3][4]={{1,2,3,4,5,6,7,8,9,1,1,2},
{2,3,4,7,6,7,8,9,0,0,0,0}};
printf("%d %d %d %d",a,*a,**a,***a);
}
```

ans: 1002 1002 1002 1 (array begins at address 1002)

179.
```
main()
{
printf("%c",7["sundaram"]);
}
```

ans: m (a[i], i[a], a[2], 2[a])

180.
```
main()
      {
      printf("%c","sundaram"[7]);
      }
```

ans: m (a[i], i[a], a[2], 2[a])

181.
```
main(int argc , char * argv[])
      {
      int i,j=0;
      for(i=0;i<argc;i++)
      j=j+atoi(argv[i]);
      printf("%d",j);
      }
```

ans: 6 (if command line arguments are myprog 1 2 3)

182.
```
main()
      {
      printf("%d",-1>>4);
      }
```

ans: -1 (-1 is stored in 2's complement form when it is shifted sign bit is extended)

183.
```
struct x
{
int i;
char c;
};

union y{
struct x a;
double d;
};
main()
      {
      printf("%d",sizeof(union y));
      }
```

ans: 8 (union y is a kunion variable type. Sizeof operator takes input either a variable or a data type)

184.
```
struct x{
char c1;
char c2;
int i;
short int j;
};
```

```
struct y{
short int j;
char c1;
char c2;
int i;
};
main()
      {
      printf("%d %d",sizeof (struct x),sizeof (struct y));
      }
```

ans: 6 6 (struct x and struct y are structure variable types. Sizeof operator takes input either a variable or a data type)

185.
```
main()
      {
      int k=2,j=3,p=0;
      p=(k,j,p);
      printf("%d\n",p);
      }
```

ans: 0 (comma operator)

186.
```
main()
      {
      int i=-10;
      for(;i;printf("%d\n",i++));
      }
```

ans: prints -10 to -1

187.
```
main()
      {
      unsigned int i=-1;
      printf("%d %u\n",i,i);
      printf("%u\n",i*-1);
      }
```

ans: -1 65535
1

188.
```
main()
      {
      int **i;
      int *j=0;
      i=&j;
      if (NULL != i&& NULL != *i)
      {
      printf("I am here");
```

```
}
}
```

ans: does not print anything

189.
```
main()
{
int *j=(int *)0x1000;
printf("%p",j);
}
```

ans: 0000 : 1000

190.
```
main()
{
int *j=0x1000;
printf("%p",j);
}
```

ans: 0000:1000

191.
```
main()
{
int *j=(int *)0x1000;  (or) int *j=0x1000;
printf("%d",j);
}
```

ans: 4096

192.
```
main(int x)
{
printf("%d",x);
}
```

ans: 1 (command line arguments)

if the name of the executable file is abc and the command line is
given as
abc xyz
what is the output

ans: 2

193.
```
main()
{
char a[]={'1','2','3',0,'1','2','3'};
printf(a);
}
```

ans: 123

194.
```
#define const const
void main(int argc)
      {
      const int x=0;
      }
```

ans: runs fine

195.
```
main()
      {
      int a[]={5,6};
      printf("%d",a[1.6]);
      }
```

ans: 6

196.
```
struct x
      {
      int i=0; /*line A*/
      };
      main()
      {
      struct x y; /*line B*/
      }
```

ans: error (i is initialized in struct body)

197.
```
struct {
int len;
char *str
}*p;
++p -> len
```

ans: increments len

198.
```
main()
      {
      char a[]="abcdefghijklmnopqrstuvwxyz";
      printf("%d",sizeof(a));
      }
```

ans: 27 (sizeof operator includes null character also, whereas strlen function excludes null character)

199.
```
main()
      {
      char a[]="abcdefghijklmnopqrstuvwxyz";
      char *p=a;
      printf("%d ",strlen(p));
      p+=10;
```

```
printf("%d",strlen(a));
}
```

ans: 26 26

200.
```
main()
{
printf("%d",printf(" hello world "));
}
```

ans: hello world 13 (including two spaces)

201. what is the output of the following code, assuming that the array
begins at location 5364875?

```
main()
{
int a[2][3][4]={
{2,1,4,3,6,5,8,7,0,9,2,2},
{1,2,3,4,5,6,7,8,9,0,1,2}
};
printf("%u %u %u %u",a,*a,**a,***a);
}
```

ans: 5364875,5364875,5364875,2

202.
```
main()
{
char a =0xAA ;
int b ;
b = (int) a ;
b = b >> 4 ;
printf("%x",b);
}
```

ans: fffa

203. What is the size of the array declared as double * X[5] ?

ans. 5 * sizeof (double *)

203.
```
#define clrscr() 100
main()
{
clrscr();
printf("%d",clrscr());
}
```

ans: 100

204.
```
main()
      {
      int a;
      printf("%d",scanf("%d",&a));
      }
```

ans: it will wait for a character from keyboard. If u enter any number
it will print 1.

205.
```
main()
      {
      printf("as");
      printf("\bhi");
      printf("is\n");
      }
```

ans: ahiis (\b is backspace. So s is erased)

206.
```
main()
      {
      unsigned short a=-1;
      unsigned char b=a;
      printf("%d %d ",a,b);
      }
```

ans: -1 255 (%d format specifier)

207.
```
main()
      {
      unsigned short a=-1;
      unsigned char b=a;
      printf("%u%d ",a,b);
      }
```

ans: 65535 255 (%u format specifier)

208.
```
#define maxval 5
main()
      {
      int i=1;
      if(i-maxval)
      {
      printf("inside");
      }
      else
      {
      printf("out");
      }
      }
```

ans: inside

209.
```
#define a 3+3
#define b 11-3
      main()
      {
      printf("%d",a*b);
      }
```

ans: 33

210.
```
main()
      {
      int *i;
      int s=(int *)malloc(10*sizeof(int));
      for (i=0;i<10;i++)
      {
      printf("%d",i*i);
      }
      }
```

ans: error (Nonportable pointer conversion and illegal use pointer i*i)

211. array's base address is 1000....array is a[5][4]..then wat is de
correct address of a[4][3]...Each element takes 4 bytes

ans:1076

212. int a[5,6]
how much memory will be allocated

ans: doubt(if comma operator is considered 12 bytes will be allocated)

213.
```
#define d 10+10
main()
      {
      printf("%d",d*d);
      }
```

ans: 120

214.
```
main()
      {
      int i,j=1;
      for(i=0;i<10;i++);
      {
      j=j+i;
```

```
        }
        printf("%d %d",i,j);
        }
```

ans: 10 11

215.
```
static char *i;
i=malloc(sizeof(char));
find the error;
```

ans: malloc returns void (type casting is required (char *))

216.
```
main()
        {
        int i=0xaa;
        char *p;
        p=(char *)i;
        p=p>>4;
        printf("%x",p);
        }
```

ans: illegal use of pointer p=p>>4

217.
```
main()
        {
        enum{sunday=-1,monday,wednesday};
        printf("%d %d",sizeof(wednesday),wednesday);
        }
```

ans: 2 1

218.
```
->How do you write a program which produces its own source
code as its output?
->How can I find the day of the week given the date?
->Why doesn't C have nested functions?
->What is the most efficient way to count the number of bits
which are set in a value?
->How can I convert integers to binary or hexadecimal?
->How can I call a function, given its name as a string?
->How do I access command-line arguments?
->How can I return multiple values from a function?
->How can I invoke another program from within a C program?
->How can I access memory located at a certain address?
->How can I allocate arrays or structures bigger than 64K?
->How can I find out how much memory is available?
->How can I read a directory in a C program?
->How can I increase the allowable number of simultaneously
open files?
->What's wrong with the call "fopen("c:\newdir\file.dat",
"r")"?
```

219.
```
void main()
      {
      int d=5;
      printf("%f",d);
      }
```

ans: undefined

220.
```
void main()
      {
      int i;
      for(i=1;i<4;i++)
      switch(i)
      {
      case 1: printf("%d",i);break;
      {
      case 2:printf("%d",i);break;
      case 3:printf("%d",i);break;
      }
      }
      switch(i) case 4:printf("%d",i);
      }
```

ans: 1234

221.
```
void main()
      {
      int i;
      for(i=1;i<4;i++)
      switch(i)
      {
      case 1: printf("%d",i);break;
      {
      case 2:printf("%d",i);break;
      case 3:printf("%d",i);break;
      }
      switch(i) case 4:printf("%d",i);
      }
      }
```

ans: 123

222.
```
void main()
      {
      char *s="\12345s\n";
      printf("%d",sizeof(s));
      }
```

ans: 4 (pointer takes 4 bytes here)

223.
```
void main()
      {
      unsigned i=1; /* unsigned char k= -1 => k=255; */
      signed j=-1;   /* unsigned or signed int k= -1 =>k=65535
*/
      if(i<j)
      printf("less");
      else
      if(i>j)
      printf("greater");
      else
      if(i==j)
      printf("equal");
      }
```

ans: less

224. How do you declare an array of N pointers to functions returning pointers to functions returning pointers to characters?

ans: char *(*(*a[N])())();

```
typedef char *pc;    /* pointer to char */
typedef pc fpc();  /* function returning pointer to char
*/
typedef fpc *pfpc;    /* pointer to above */
typedef pfpc fpfpc();    /* function returning... */
typedef fpfpc *pfpfpc;    /* pointer to... */
pfpfpc a[N];         /* array of... */
```

225.
```
int f();
void main()
      {
      f(1);
      f(1,2);
      f(1,2,3);
      }
      f(int i,int j,int k)
      {
      printf("%d %d %d ",i,j,k);
      }
```

ans: 1 garbage garbage 1 2 garabage 1 2 3

226.
```
void main()
      {
      int count=10,*temp,sum=0;
      temp=&count;
      *temp=20;
      temp=&sum;
```

```
        *temp=count;
        printf("%d %d %d ",count,*temp,sum);
        }
```

ans: 20 20 20

227.
```
main()
        {
        static i=3;
        printf("%d",i--);
        return i>0 ? main():0;
        }
```

ans: 321

228.
```
char *foo()
        {
        char result[100];
        strcpy(result,"anything is good");
        return(result);
        }
        void main()
        {
        char *j;
        j=foo();
        printf("%s",j);
        }
```

ans: anything is good (address of auto variable should not be returned. Sometimes it will give unknown results)

229.
```
void main()
        {
        char *s[]={ "dharma","hewlett-packard","siemens","ibm"};
        har **p;
        p=s;
        printf("%s ",++*p);
        printf("%s ",*p++);
        printf("%s ",++*p);
        }
```

ans: harma harma ewlett-packard

230.
```
main()
        {
        static int i = 0;
        int z;
        if(i++<5)
        {
        printf("%d ",i);
        }
```

```
        else
        exit(0);
        z=3;
        printf("%d %d ",z,main());
        }
```

ans: 1 2 3 4 5

231.
```
main()
        {
        static int i = 0;
        int z;
        if(i++>5)
        {
        printf("%d ",i);
        exit(0);
        }
        z=3;
        printf("%d %d ",z,main());
        }
```

ans: 7

232.
```
main()
        {
        int z=3;
        printf("%d %d &",z,main());
        }
```

ans: infinite loop or till stack overflows

233.
```
main()
        {
        int i=3,j=5;
        while (i--,j--)
        {
        printf("%d %d \n",i,j);
        }
        }
```

ans: 2 4
1 3
0 2
-1 1
-2 0
5 times loop will be executed

234.
```
main()
        {
        int i=3,j=5;
        if(i--,j--)
```

```
        printf("%d %d \n",i,j);
        }
```

ans: 2 4

235.
```
main()
        {
        int i=3;
        printf("%d %d %d ",++i,i--,i+=5);
        }
```

ans: 8 8 8

236.
```
main()
        {
        int times =5;
        int i=3;
        int j=4;
        int k=34;
        i=j+k;
        while(times --)
        {
        i=times;
        j=times;
        k=times;
        }
        printf("%d %d %d ",i,j,k);
        }
```

ans: 0 0 0

237.
```
main()
        {
        int num =32765;
        while (num++);
        printf("%d ",num);
        }
```

ans: 1

238.
```
main()
        {
        float k=3.4156;
        printf("%f %f ",floor(k),ceil(k));
        }
```

ans: 3.000000 4.000000

239.
```
main()
        {
        int number =25;
```

```
            char name ='A';
            printf("The addition of the name and the number is %o
",name+number);
            }
```

ans: The addition of the name and the number is 132

240. The following function gives some error. What changes have to be made

```
      void ( int a,int b)
            {
            int t; t=a; a=b; b=t;
            }
```

ans: change everywhere a to *a and b to *b

241.
```
int main()
            {
            FILE *fp;
            fp=fopen("test.dat","w");
            fprintf(fp,'hello\n");
            fclose(fp);
            fp=fopen ("test.dat","w");
            fprintf (fp, "world");
            fclose(fp);
            return 0;
            }
```

If text.dat file is already present after compiling and execution how many bytes does the file occupy ?

ans: 5 bytes

242.
```
main()
            {
            int i;
            for(i=0;i<20;i++)
            {
            switch(i)
            {
            case 0:i+=5;
            case 1:i+=2;
            case 5:i+=5;
            default: i+=4;
            break;}
            printf("%d,",i);
            }
            }
```

ans: 16, 21,

243.
```
main()
```

```
{
char c=-64;
int i=-32;
unsigned int u =-16;
if(c>i)
{
printf("pass1,");
if(c<u)
printf("pass2");
else
printf("Fail2");
}
else
printf("Fail1,");
if(i<u)
printf("pass2");
else
printf("Fail2");
}
```

ans: Fail1, pass2

244.
```
main()
{
char c=-64;
int i=-32;
unsigned int u =16;
if(c>i)
{
printf("pass1,");
if(c<u)
printf("pass2");
else
printf("Fail2");
}
else
printf("Fail1,");
if(i<u)
printf("pass2");
else
printf("Fail2");
}
```

ans: Fail1, Fail2 (check with above program)

245.
```
void main()
{
int i;
char a[]="String";
char *p="New Sring";
char *Temp;
```

```
        Temp=a;
        a=malloc(strlen(p) + 1);
        strcpy(a,p); //Line number:9//
        p = malloc(strlen(Temp) + 1);
        strcpy(p,Temp);
        printf("(%s, %s)",a,p);
        free(p);
        free(a);
        } /*Line number 15*/
```

ans: lvalue required (at line no. 8)

246.
```
main()
        {
        unsigned int x=-1;
        int y;
        y = ~0;
        if(x == y)
        printf("same");
        else
        printf("not same");
        }
```

ans: same

247.
```
char *gxxx()
        {
        static char xxx[1024];
        return xxx;
        }

        main()
        {
        char *g="string";
        strcpy(gxxx(),g);
        g = gxxx();
        strcpy(g,"oldstring");
        printf("The string is : %s",gxxx());
        }
```

ans: The string is oldstring

248.
```
void myalloc(char *x, int n)
        {
        x= (char *)malloc(n*sizeof(char));
        memset(x,'\0',n*sizeof(char));
        }

        main()
        {
        char *g="String";
```

```
myalloc(g,20);
strcpy(g,"Oldstring");
printf("The string is %s",g);
}
```

ans: The string is Oldstring

249.
```
main()
{
char p[]="String";
int x=0;
if(p=="String")
{printf("Pass 1");
if(p[sizeof(p)-2]=='g')
printf("Pass 2");
else
printf("Fail 2");
}
else
{
printf("Fail 1");
if(p[sizeof(p)-2]=='g')
printf("Pass 2");
else
printf("Fail 2");
}
}
```

ans: Fail 1Pass 2 (address of array and address of string where it is stored are different)

250.
```
main()
{
char *p="String";
int x=0;
if(p=="String")
{printf("Pass 1");
if(p[sizeof(p)-2]=='g')
printf("Pass 2");
else
printf("Fail 2");
}
else
{
printf("Fail 1");
if(p[sizeof(p)-2]=='g')
printf("Pass 2");
else
printf("Fail 2");
}
}
```

ans: Fail 1Fail2 (address of array and address of string where it is stored are different)

251.
```
main()
{
printf("%u",main);
}
```

ans: 0

252.
```
main()
{
printf("%p",main);
}
```

ans: starting address of main function x:y (segment : offset). Each time u run starting address will change. Function name always gives starting address of that function.

```
main()
{
printf("%u",main());
}
```

ans: infinite loop or till stack overflows. main function is called recursively infinite times or till stack overflows

253.
```
main()
{
int i=10;
printf("%d %d %d",i,i++,++i);
}
```

ans: 12 11 11 (compiler dependent)

254.
```
main()
{
int *p,*q;
p=(int *)1000;
q=(int *)2000;
printf("%d",(q-p));
}
```

ans: 500

255.
```
find(int x,int y)
{return ((x<y)?0:(x-y)):}
```
find(a,find(a,b)) is used for?

ans: find out minimum of a, b

256.
```
find(int x,int y);
main()
      {
      int x,a=8,b=6;
      x=find(a,find(a,b));
      printf("%d",x);
      }

find(int x,int y)
{ return ((x<y)?0:(x-y));}
```

ans: 6

257.
```
main()
      {
      int a;
      if (a=7)
      printf(" a is 7 ");
      else
      printf("a is not 7");
      }
```

ans: a is 7

258.
```
main()
      {
      int a=4,b=3,c=5;
      if (a>b)
      if(b>c)
      printf("inner");
      else printf("outer");
      }
```

ans: outer (else is attached to inner if)

259.
```
main()
      {
      int a=2,b=3,c=5;
      if (a>b)
      if(b>c)
      printf("inner");
      else printf("outer");
      }
```

ans: no output (else is attached to inner if)

260.
```
main()
      {
```

```
            inc(); inc();  inc();
            }
            inc()
            {
            static int x;
            printf("%d", ++x);
            }
```

ans: 123

261.
```
main()
            {
            printf("%d", strlen(""));
            }
```

ans: 0 (strlen excludes null character. It is a null string)

262.
```
main()
            {
            printf("%d", sizeof(""));
            }
```

ans: 1 (sizeof included null character. It is a null string)

263.
```
main()
            {
            int a=5,b=2;
            printf("%d", a+++b);
            }
```

ans: 7

264.
```
main()
            {
            int v=3, *pv=&v;
            printf(" %d %d ", v,*pv);
            }
```

ans: 3 3

265.
```
main()
            {
            enum cities{bethlehem,jericho,nazareth=1,jerusalem};
            printf("%d %d",jericho,nazareth);
            }
```

ans: 1 1

266. difference between scanf and sscanf function

ans: sscanf(s,...) is equivalent to scanf(...) except that
input charecter are taken from string s.

267.
```
main()
{
char line[80];
scanf("%[^\n]",line);
printf("%s",line);
}
```

ans: if you type this is manu<enter> output will be this is manu
scanf normally takes a single string but if we use [^\n] it takes multiple strings till it encounters newline (i.e., enter is pressed)

268.
```
main()
{
char line[80];
scanf("%[^a]",line);
printf("%s",line);
}
```

ans: type this is manu<enter> output will be this is m

269.
```
main()
{
char line[80];
scanf("%[^u]",line);
printf("%s",line);
}
```

ans: type this is manu<enter> output will be this is man

270.
```
main()
{
printf("%f %f",floor(-2.8),ceil(-2.8));
}
```

ans: -3.000000 -2.000000

271.
```
int x[3][4] ={
{1,2,3},
{4,5,6},
{7,8,9}
}
```

ans: values in fourth column are zero

272. main ()
```
{
int i =5;
i= (++i)/(i++);
printf( "%d" , i);
}
```

ans: 2

273. main()
```
{
int a,b;
int *p,*q;
a=10;b=19;
p=&(a+b);
q=&max;
}
```

ans: error (must take address of memory location)

274. main()
```
{
printf("%u", sizeof(func));
}

func()
{
return 0;
}
```

ans: error (sizeof operator operand should not be function name)

275. main()
```
{
printf("%u", sizeof(func()));
}

func()
{
return 0;
}
```

ans: 2 (sizeof operator operand should not be function name but it can be a function call)

276. sizeof operator is **runtime operator**

277. An array whose elements are fn pointers which inturn returns a character

ans: char (*x[]) ();

278.
```
main()
{
int n,i=1;
switch(n)
{
case 1:
printf("1");
case 2:
printf("2");
default:
i=10;
}
printf("i=%d",i);
}
```

ans: 10 (since n is not initialized it contains garbage value hence almost all the times default case is run)

279.
```
#define max 10
main()
{
int a,b;
int *p,*q;
a=10;b=19;
p=&(a+b);
q=&max;
}
```

ans: error (must take address of a memory location)

280.
```
main()
{
int i;
printf("%d", &i)+1;
scanf("%d", i)-1;
}
```

ans: address of memory location i (scanf function reads value into a garbage location if it fall in protected memory it gives error otherwise value will be read into that location)

281.
```
main()
{
int i;
float *pf;
pf = (float *)&i;
*pf = 100.00;
printf("%d", i);
```

```
      }
```

ans: runtime error

282.
```
main()
      {
      int i = 0xff;
      printf("%d", i<<2);
      }
```

ans: 1020

283.
```
#define SQR(x) x * x
main()
      {
      printf("%d", 225/SQR(15));
      }
```

ans: 225

284.
```
union u
      {
      struct st
      {
      int i : 4;
      int j : 4;
      int k : 4;
      int l;
      }st;
      int i;
      }u;

main()
      {
      u.i = 100;
      printf("%d, %d, %d",u.i, u.st.i, u.st.l);
      }
```

ans: 100 4 0

285.
```
union x
      {
      union u
      {
      int i;
      int j;
      }a[10];
      int b[10];
      }u;

main()
```

```
{
printf("%d ", sizeof(u));
printf("%d ", sizeof(u.a));
printf("%d", sizeof(u.a[0].i));
}
```

ans: 20 20 2 (Note: when unions or structures are nested inner and outer tagnames should be different)

286.
```
main()
{
int (*functable[2])(char *format, ...) ={printf, scanf};
int i = 100;
(*functable[0])("%d ", i);
(*functable[1])("%d ", i);
(*functable[1])("%d ", i);
(*functable[0])("%d", &i);
}
```

ans: runtime error (& is missing)

287.
```
main()
{
int (*functable[2])(char *format, ...) ={printf, scanf};
int i = 100;
(*functable[0])("%d, ", i);
(*functable[1])("%d", &i);
(*functable[1])("%d", &i);
(*functable[0])(", %d", &i);
}
```

ans: 100, enter two values for scanf, i address value. In function pointers all the functions will have the same return type.

288.
```
main()
{
int i, j, *p;
i = 25;
j = 100;
p = &i; /* Address of i is assigned to pointer p */
printf("%f", i/(*p)); /* i is divided by pointer p */
}
```

ans: runtime error (format specifier %f is not matched)

289.
```
main()
{
char *p = "hello world";
p[0] = 'H';
printf("%s", p);
```

```
        }
```

ans: Hello world

290.
```
main()
        {
        char * strA;
        char * strB = "I am OK";
        memcpy( strA, strB, 6);
        }
```

ans: error (pointer should be initialized before using)

291. How will you print % character?

ans: printf(“\%”); printf(“%%”); printf(“\%%”);

292.
```
main()
        {
        printf("\% ");
        printf("\\% ");
        printf("%% ");
        printf("\%%");
        }
```

ans: % \% % %

293.
```
main()
        {
        printf("\%d ", 100);
        printf("\\% ");
        printf("%% ");
        printf("\%%");
        }
```

ans: 100 \% % %

294.
```
const int perplexed = 2;
#define perplexed 3
main()
        {
        #ifdef perplexed
        #undef perplexed
        #define perplexed 4
        #endif
        printf("%d",perplexed);
        }
```

ans: 4 (const int perplexed will not come into picture bcoz text replacement is done at preprocessor stage

which is first stage in executable file development stages)

295.
```
struct Foo
      {
      char *pName;
      };

main()
      {
      struct Foo *obj = malloc(sizeof(struct Foo));
      strcpy(obj->pName,"Your Name");
      printf("%s", obj->pName);
      }
```

ans: runtime error (Note: pName should be initialize before using)

296.
```
struct Foo
      {
      char *pName;
      char *pAddress;
      };
main()
      {
      struct Foo *obj = malloc(sizeof(struct Foo));
      obj->pName = malloc(100);
      obj->pAddress = malloc(100);
      strcpy(obj->pName,"Your Name");
      strcpy(obj->pAddress, "Your Address");
      free(obj);
      printf("%s ", obj->pName);
      printf("%s", obj->pAddress);
      free(obj->pName);
      free(obj->pAddress);
      }
```

ans: :Your Name Your Address

297.
```
main()
      {
      char *a = "Hello ";
      char *b = "World";
      printf("%s", stract(a,b));
      }
```

ans: stract function should be defined or strcat should be used

298.
```
main()
      {
```

```
      char *a = "Hello ";
      char *b = "World";
      printf("%s", strcat(a,b));
      }
```

ans: HelloWorld

299.
```
main()
      {
      char *a = "";
      char *b = "World";
      printf("%s", strcpy(a,b));
      }
```

ans: World

300.
```
void func1(int (*a)[10])
      {
      printf("Ok it works ");
      }

void func2(int a[][10])
      {
      printf("Will this work?");
      }

main()
      {
      int a[10][10];
      func1(a);
      func2(a);
      }
```

ans: Ok it works Will this work?
Formal argument in function definition should be a pointer to array or double dimensional array but not a pointer to pointer (doble pointer)

301.
```
main()
      {
      printf("%d, %d", sizeof('c'), sizeof(100));
      }
```

ans: 2, 2

302.
```
main()
      {
      int i = 100;
      printf("%d", sizeof(sizeof(i)));
      }
```

ans: 2

303.
```
int f();
main()
      {
      int c = 5;
      printf("%p %p %d %d", f,f(),f,f());
      }
int f()
      {}
```

ans: segment:offset segment:offset integer integer (all are unknown values. Segment and offset values of function address and function return value. Values of function address and function return value)

304.
```
main()
      {
      char c;
      int i = 456;
      c = i;
      printf("%d", c);
      }
```

ans: -56

305.
```
main ()
      {
      int x = 10;
      printf ("x = %d, y = %d", x,--x++);
      }
```

ans: lvalue required

306.
```
main()
      {
      int i =10, j = 20;
      printf("%d, %d, ", j-- , --i);
      printf("%d, %d", j++ , ++i);
      }
```

ans: 20, 9, 19, 10

307.
```
main()
      {
      int x=5;
      for(;x==0;x--)
      {
      printf("x=%d\n", x--);
      }
      }
```

ans: no output

308.
```
main()
{
int x=5;
for(;x!=0;x--)
{
printf("x=%d ", x--);
}
}
```

ans: infinite loop (becareful here two decrements, and x is odd. So x==0 never occurs)

309.
```
main()
{
int x=4;
for(;x==0;x--)
{
printf("x=%d ", x--);
}
}
```

ans: x=4 x=2

310.
```
main()
{
int x=5;
{
printf("x=%d", x--);
}
}
```

ans: x=5

311.
```
main()
{
unsigned int bit=256;
printf("%d ", bit);
{
unsigned int bit=512;
printf("%d", bit);
}
}
```

ans: 256 512

312.
```
main()
{
int i;
```

```
for(i=0;i<5;i++)
{
printf("%d ", 1L << i);
}
}
```

ans: 1 2 4 8 16

313.
```
main()
{
signed int bit=512, i=5;
for(;i;i--)
{
printf("%d ", bit = (bit >> (i - (i -1))));
}
}
```

ans: 256 128 64 32 16

314.
```
main()
{
signed int bit=512, i=5;
for(;i;i--)
{
printf("%d ", bit >> (i - (i -1)));
}
}
```

ans: 256 256 256 256 256

315.
```
main()
{
if (!(1&&0))
{
printf("OK I am done.");
}
else
{
printf("OK I am gone.");
}
}
```

ans: OK I am done

316.
```
main()
{
if ((1||0) && (0||1))
{
printf("OK I am done.");
}
else
```

```
        {
        printf("OK I am gone."); }
        }
```

ans: OK I am done

317.
```
main()
        {
        signed int bit=512, mBit;
        {
        mBit = ~bit;
        bit = bit & ~bit ;
        printf("%d %d", bit, mBit);
        }
        }
```

ans: 0 -513

318. What is the difference between the following
a. i=i+1;
b. ++i;

ans: ++i is a single instruction while in i=i+1, first i+1 is computed and then assigned.

319. What is exception handling and how is it different from error handling..... Why is exception handling used instead of error handling in some cases and vice versa.

320. Explanation of OOP principles
-Data Abstraction.
-Data Encapsulation
-Inheritence
-Polymorphism
-Dynamic Binding.
-Reduction of Errors.

321.
```
main()
        {
        int d,a=5,b=3,c=(a,b);
        d=(a,b);
        printf("%d %d",c,d);
        }
```

ans: 3 3 (from 321 to 324 think about comma operator)

322.
```
main()
        {
        int a=5,b=3,c=a,d;
        d=(a,b);
```

```
        printf("%d %d",c,d);
        }
```

ans: 5 3

323.
```
main()
        {
        int a=5,b=3,c=(a,b),d;
        d=(a,b);
        printf("%d %d",c,d);
        }
```

ans: 3 3

324.
```
main()
        {
        int a=5,b=3,c=(a,b),d;
        d=a,b;
        printf("%d %d",c,d);
        }
```

ans: 3 5 (from 321 to 324 think about comma operator)

325. Which one is having problem?

```
int *f1()
        {
        int n;
        return (n)
        }

int *f2()
        {
        int *p;
        *p=3;
        return p;
        }

int *f3()
        {
        int *p;
        p=malloc();
        return p;
        }

int *f4()
        {
        int n;
        return (&n)
        }
```

ans: f4 is having problem as it is returning address of auto variable.

326. *p+=1
*p++
are these two same?

ans: not same (first one increments value pointed by p and second one increments pointer)

327. int num[3];
num[3]=2;

ans: array index exceeds array bounds

328. main()
{
int j=4;
for(int i=0;i<5;i++)
{
j++;
++j;
}
printf("%d",j);
}

ans: undefined symbol i

329. main()
{
int j=4;
for(int i=0;i<5;i++)
{
j++;
++j;
}
printf("%d",j);
}

ans: 14

330. main()
{
char s1[20]="hello world";
s1[5]="\0";
printf("%d",strlen(s1));
}

ans: nonportable pointer conversion

331. main()

```
      {
      char s1[20]="hello world";
      s1[5]='\0';
      printf("%d",strlen(s1));
      }
```

ans: 5

332. Which can't be passed to subroutine

ans:preprocessor directive.

333.
```
#define m 10
f();
main()
      {
      f(m);
      }
f(int j) or f(j)
      {
      printf("%d",j);
      }
```

ans: 10

334.
```
#define m 10.0
f(float);
main()
      {
      f(m);
      }
f(float j)
      {
      printf("%f",j);
      }
```

ans: 10.000000 (careful about macro value type and proceed)

335.
```
f();
main()
      {
      int x=1,y=2,z=3;
      f(x,y,z);
      }
f(int p,int q,int r)
      {
      printf("%d %d %d",p,q,r);
      }
```

ans: 1 2 3 (in prototype we have not given argument types as they are ints)

336.
```
f();
main()
      {
      float x=1.0,y=2.0,z=3.0;
      f(x,y,z);
      }
f(float p,float q,float r)
      {
      printf("%f %f %f",p,q,r);
      }
```

ans: error (no prototype)

337.
```
f(float, float, float);
main()
      {
      float x=1.0,y=2.0,z=3.0;
      f(x,y,z);
      }
f(float p,float q,float r)
      {
      printf("%f %f %f",p,q,r);
      }
```

ans: 1.000000 2.000000 3.000000

338.
```
main()
      {
      int x=0;
      for(;;x++){
      if(x==4) break;
      continue;
      }
      printf("%d\n",x);
      }
```

ans: 4

339.
```
main()
      {
      int i=100;
      do
      {--i;}while(i>50);
      printf("%d\n",i);
      }
```

ans: 50

340. main()
```
{
int o;
int m=-14;
int n=6;
o=m%++n;
n+=m++%o;
printf("%d%d%d",m,n,o);
}
```

ans: divide by zero error

341. main()
```
{
int a=1000,b=1000,c;
(long)c=(long)a*b;
printf("%d",c);
}
```

ans: error (lvalue required)

342. Debugging is the process of finding

ans : logical and runtime errors

343. using ternary find out max of a,b,c

ans: (a>b) ? (a>c ? a : c) : (b>c ? b : c)

344. main()
```
{
int a, *b = &a, **c =&b;
a=4;
** c= 5;
printf("%d",a);
}
```

ans: 5

345. main( )
```
{
int i = 1;
if(!i)
printf("Recursive calls are real pain!");
else
{
i = 0;
printf("Recursive calls are challenging\n");
main();
}
}
```

ans: prints Recursive calls are challenging infinite times or till stack overflows.

346.
```
main()
{
struct emp{
char n[20];
int age;};
struct emp e1={"david",23};
struct emp e2=e1;
if(e1==e2)
printf("structures are equal");
}
```

ans: structures are equal (in ANSI C) but error in some other compilers. Direct assignment and comparisons can't be done.

347.
```
main( )
{
char a[];
a[0] = 'A';
printf("%c", a[0]);
}
```

ans: size of a is unknown

348.
```
main()
{
printf("%d %d %d",sizeof('3'),sizeof("3"),sizeof(3));
}
```

ans: 2 2 2

349.
```
main()
{
printf("%c","abcdefgh"[4]);
}
```

ans: e

350.
```
main()
{
int a[ ]={10,20,30,40,50};
char *p;
p=(char *)a;
printf("%d",*((int *)p+4));
}
```

ans: 50

351.
```
main()
      {
      int a[]={10,20,30,40,50};
      char *p;
      p=(char *)a;
      printf("%d %d %d %d",*p,*(p+1),*(p+2),*(p+3));
      }
```

ans: 10 0 20 0

352.
```
main()
      {
      printf("%c",7["sundaram"]);
      }
```

ans: m

353.
```
#define str(x) #x
#define Xstr(x) str(x)
#define oper multiply
main()
      {
      char *opername=Xstr(oper); /* #multiply  i.e.,
      "multiply"
      printf("%s",opername);
      }
```

ans: multiply (#, stringizing operator allows a formal argument within a macro definition to be converted to a string)

354.
```
#define sqr(x) (x*x)
main()
      {
      int a,b=3;
      a=sqr(b+2);
      printf("%d",a);
      }
```

ans: 11

355.
```
main()
      {
      int b;
      b=f(20);
      printf("%d",b);
      }
f(int a)
      {
      a>20 ? return (10): return (20);
```

```
}
```

ans: error in function definition

356.
```
main()
{
int b;
b=f(20);
printf("%d",b);
}
f(int a)
{
return a>20 ? (10): (20);
}
```

ans: 20

357. What error would the following function give on compilation.

```
f(int a,int b)
{
int a;
a=20;
return a;
}
```

ans: redeclaration of a

358.
```
main()
{
int i=3;
i=i++;
printf("%d",i);
}
```

ans: 4

359.
```
main()
{
static char a[]="Bombay";
char *b="Bombay";
printf("%d %d",sizeof(a),sizeof(b));
}
```

ans: 7 4 (here pointer takes 4 bytes)

360.
```
main()
{
int x = 5;
printf("%d %d", x++, ++x);
return 0;
}
```

ans: 6 6

361.
```
main()
{
int z = 4;
printf("%d", printf(" %d %d ", z, z));
}
```

ans: 4 4 5 (three spaces are there total five characters will be printed by printf statement)

362.
```
main()
{
int z = 45;
printf("%d", printf(" %d %d ", z, z));
}
```

ans: 45 45 7

363.
```
main( )
{
int a[ ] = { 10, 20, 30, 40, 50};
int j;
for (j = 0; j < 5; j++)
{
printf("%d", * a);
a++;
}
}
```

ans: lvalue required

364.
```
main()
{
int n=20, i = 0;
while(n-->0);
i = i+n;
printf("%d",i);
}
```

ans: -1

365.
```
main()
{
int i = 0; char ch = 'A'
do {
printf("%c", ch);
} while (i++ <5| | ++ch < ='F');
}
```

ans: AAAAAABCDEF

366.
```
int count, sum;
      main()
      {
      for(count = 4; sum += --count;);
      printf("%d", sum);
      }
```

ans: 0

367.
```
main( )
      {
      static float a[ ] = { 13.24, 1.5}
      float *j, *k;
      j = a;
      k = a + 2;
      j = j * 2;
      k = k/2;
      printf("%f%f ", *j, *k);
      }
```

ans: error (pointer multiplication and division is illegal)

368.
```
main( )
      {
      static char s[ ] = "Rendezvous";
      printf("%d", *(s+ strlen(s)));
      }
```

ans: 0

369.
```
main()
      {
      char **p="Hello";
      printf("%c",*p);
      }
```

ans: H

370.
```
main()
      {
      char **p="Hello";
      printf("%s",p);
      }
```

ans: Hello

371.
```
main()
      {
```

```
        char **p="Hello";
        printf("%s",*p); /* (or) printf("%s",**p); */
        }
```

ans: error

372.
```
main()
        {
        char **p="Hello";
        printf("%c",**p);
        }
```

ans: error

373.
```
main()
        {
        char a[]="Hello";
        printf("%c\n",*a++);
        }
```

ans: lvalue required

374.
```
main()
        {
        int a=3,b=2,c=1;
        static int k= a<b<c-1;
        printf("%d",k);
        }
```

ans: illegal initialization (for static initializer should be constant expression or constant)

375.
```
main()
        {
        int a=3,b=2,c=1;
        int k= a<b<c-1;
        printf("%d",k);
        }
```

ans: 0

376.
```
main()
        {
        char c=-32;
        int i=-64;
        unsigned u=-26;
        if(c>i)
        printf("PASS1 ");
        if( i < c)
        printf("PASS2 ");
        else
```

```
            printf("FAIL1 ");
            if(i<u)
            printf("PASS2 ");
            else
            printf("FAIL2 ");
            }
```

ans: PASS1 PASS2 PASS2

377.
```
main()
            {
            int i=4;
            switch(i)
            {
            case 1:
            printf("HEllo");
            case default: // "case" should not come with "default"
            printf("****");
            }
            }
```

ans: error (case should not be there with default)

378.
```
main()
            {
            static int i=5;
            printf("%d ",i--);
            if(i)
            main();
            }
```

ans: 5 4 3 2 1

379.
```
main()
            {
            int a=5,c;
            int ptr;
            ptr=&a;
            c=*ptr * a;
            printf("%d,%d",c,a);
            }
```

ans: error (nonportable pointer conversion and invalid indirection)

380.
```
main()
            {
            int x=10,y=5,p,q;
            p=x>9;
            q=x>3&&y!=3;
            printf("p=%d q=%d",p,q);
```

```
        }
```

ans: p=1 q=1

381.
```
main()
        {
        int x=11,y=6,z;
        z=x==5||y!=4;
        printf("z=%d",z);
        }
```

ans: z=1

382.
```
main()
        {
        int c=0,d=5,e=10,a;
        a=c>1?d>1||e>1?100:200:300;
        printf("a=%d",a);
        }
```

ans: a=300

383.
```
main()
        {
        int i=-5,j=-2;
        junk(i,&j);
        printf("i=%d,j=%d",i,j);
        }
        junk(i,j)
        int i,*j;
        {
        i=i*i;
        *j=*j**j;
        }
```

ans: i=-5,j=4

384.
```
#define NO
#define YES
main()
        {
        int i=5,j;
        if(i>5)
        j=YES;
        else
        j=NO;
        printf("%d",j);
        }
```

ans: error (NO and YES are not defined)

385.
```
#define NO 0
#define YES 1
main()
      {
      int i=5,j;
      if(i>5)
      j=YES;
      else
      j=NO;
      printf("%d",j);
      }
```

ans: 0

386.
```
main()
      {
      int a=0xff;
      if(a<<4>>12)
      printf("leftist");
      else
      printf("rightist");
      }
```

ans: rightist

387.
```
main()
      {
      int i=+1;
      while(~i)
      printf("vicious circles");
      }
```

ans: infinite loop

388. What's the use of sizeof( ) function... since one can always directly write number of bytes instead of calling the function.

ans: for runtime operations

389.
```
main()
      {
      int p = -200;
      char c;
      c = p;
      printf("%d %d", c++, ++c);
      }
```

ans: 57 57

390.
```
int a=1;
```

```
int ab=4;
int main()
      {
      int b=3,a=2;
      printf("%i*/%i*/%*/i",a,b,ab);
      }
```

ans: 2*/3*/%*/i

391. Which one of the following statements allocates enough space to hold an array of 10 integers that are initialized to 0 ?

ans: int *ptr = (int *) calloc(10,sizeof(int));

392.
```
main()
      {
      int i,j;
      j = 10;
      i = j++ - j++;
      printf("%d %d", i,j);
      }
```

ans: 0 12

393.
```
main()
      {
      int j;
      for(j=0;j<3;j++)
      foo();
      }
      foo() {
      static int i = 10;
      i+=10;
      printf("%d ",i);
      }
```

ans: 20 30 40

394. What is wrong in the following code
```
main()
      {
      char *c;
      c = "Hello";
      printf("%s\n", c);
      }
```

ans: Hello (nothing wrong with the code)

395.
```
main()
      {
```

```
union {
int a;
int b;
int c;
} u,v;
u.a = 10;
u.b = 20;
printf("%d %d \n",u.a,u.b);
}
```

ans: 20 20

396.
```
main()
{
char *str = "12345";
printf("%c %c %c\n", *str, *(str++), *(str++));
}
```

ans: 3 2 1

397.
```
#define max(a,b) (ab)?a:b
main()
{
int a,b;
a=3;
b=4;
printf("%d",max(a,b));
}
```

ans: error (undefined symbol ab when it is replaced in printf statement)

398.
```
main()
{
int len=4;
char *st="12345678";
st = st -len;
printf("%c\n",*st);
}
```

ans: some junk character is printed

399.
```
func();
main()
{
func(1);
}
func(int i)
{
static char *str ={ "One","Two","Three","Four"};
printf("%s\n",str[i++]);
```

```
        return;
        }
```

ans: error in declaration and definition. Pointer should be there

400.
```
main()
        {
        int i;
        for (i=1;i<100; i++)
        printf("%d %0x\n",i,i);
        }
```

ans: 1 to 99 will be printed both in decimal and hexadecimal form

401.
```
struct {
int x;
int y;
union {
int id_no;
char *name;
}b;
}s,*st;
main()
        {
        st = &s;
        st-x=10;
        st-b.id_no = 101;
        printf("%d %d\n",s.x,s.b.id_no);
        }
```

ans: error (undefined symbol i and b. i and b should not be used as direct variables. They should be associated with structure variable)

402.
```
main()
        {
        int j,ans;
        j = 4;
        ans = count(4);
        printf("%d\n",ans);
        }
int count(int i)
        {
        if ( i < 0) return(i);
        else
        return( count(i-2) + count(i-1));
        }
```

ans: -18

403.
```
main()
{
int i=4;
if(i=0)
printf("statement 1");
else
printf("statement 2");
}
```

ans: statement 2

404.
```
main()
{
char a[2];
*a[0]=7;
*a[1]=5;
printf("%d",&a[1]-a);
}
```

ans: invalid indirection

405.
```
main()
{
char a[]="hellow";
char *b="hellow";
```
char c[5]="hellow";
```
printf("%s %s %s ",a,b,c);
printf("%d %d %d",sizeof(a),sizeof(b),sizeof(c));
}
```

ans: too many initializers (c array size is less)

406.
```
main()
{
char a[]="hellow";
char *b="hellow";
char c[7]="hellow";
printf("%s %s %s ",a,b,c);
printf("%d %d %d",sizeof(a),sizeof(b),sizeof(c));
}
```

ans: hellow hellow hellow 7 4 7 (here pointer takes 4 bytes)

407.
```
int num[]={10,1,5,22,90};
main()
{
int *p,*q;
int i;
p=num;
```

```
q=num+2;
i=*p++;
printf("%d %d",i,p-q);
}
```

ans: 10 -1

408. One pointer declaration is given like this:
int *(*p[10])(char *, char*)
Explain the variable assignment

ans: an array of 10 pointers to functions with two character pointers as arguments and returning integer pointer.

409.
```
main()
{
char *a[4]={"jaya","mahe","chandra","buchi"};
printf("%d %d %d",sizeof(a),sizeof(char
*),sizeof(a)/sizeof(char *));
}
```

ans: 16 4 4 (pointer takes 4 bytes)

410. The integers from 1 to n are stored in an array in a random fashion. but one integer is
missing. Write a program to find the missing integer.

**ans: The sum of n natural numbers is = n(n+1)/2.
if we subtract the above sum from the sum of all the
numbers in the array , the result is nothing but the
missing number.**

411. Write a C program to find whether a stack is progressing in forward or reverse direction.

412. Write a C program that reverses the linked list.

413.
```
#define MAX(x,y) ((x)>(y)?(x):(y))
main()
{
int x=5,y=5;
printf("maximum is %d",MAX(++x,++y));
}
```

ans: maximum is 7 (careful about braces not only in printf but also in macro definition.

414.
```
main()
```

```
      {
      int *p,*q,r;
      int values[30];
      p=&values[0];
      q=values+29;
      r=++q-p;
      printf("%d",r);
      }
```

ans: 30

415.
```
static int i = 5;
main()
      {
      int sum=0;
      do
      {
      sum +=(1/i);
      }while(0<i--);
      }
```

ans: error (divide by zero)

416.
```
enum mode = {green,red,orange,blue ,white};
main ()
      {
      green = green +1;
      printf("%d,%d",green,red );
      }
```

ans: error (lvalue required since green is a symbolic constant and = operator should not be there in enum declaration)

417.
```
int (*(*ptr)(int)) (void)
```

ans: ptr is pointer to function that takes an int value returns a pointer to a function with a no argument which returns a integer

418.
```
char *c[] ={
            "FILE",
            "EDIT",
            "SEARCH",
            "COMPILE"
      };

char **cp[] = {c+3,c+2,c+1,c};
char ***cpp = cp;
main()
```

```
        {
        printf("%s ", **cpp);
        printf("%s", *--*++cpp+3);
        printf("%s", *cpp[-2]+3);
        printf("%s\n",cpp[-1][-1]+1);
        }
```

ans: COMPILE T (last two printfs cause error)

419.
```
struct x
{
int j;
char k[100];
unsigned i;
};
int *ptr1;
struct X *ptr2;

main()
        {
        printf("%d %d",sizeof(ptr1),sizeof(ptr2));
        }
```

ans: 4 4

420.
```
main()
        {
        int i=5;
        printf( " %d %d %d", ++i,i,i++);
        }
```

ans: 7 6 5

421.
```
main()
        {
        int i,j ;
        for(i=0;i<=10;i++);
        for(j=0;j<=10;j++);
        printf("i=%d,j=%d\n",i,j);
        }
```

ans: i=11,j=11

422.
```
#define square(a) (a*a)
main()
        {
        printf("%d",square(4+5));
        }
```

ans: 29

423.
```
main()
      {
      int p = 0, q =1;
      p = q++;
      p = ++q;
      p = q--;
      p = --q;
      printf("%d %d",p,q);
      }
```

ans: 1 1

424.
```
main()
      {
      int a , count;
      int func(int);
      for (count = 1 ;count <=5;++count)
      {
      a = func(count);
      printf("%d", a);
      }
      }
int func(int x)
      {
      int y;
      y=x*x;
      return(y);
      }
```

ans: 1491625

425. supposing that each integer occupies 4 bytes and each charactrer 1 byte , what is the output of the following programme?

```
main()
      {
      int a[] ={ 1,2,3,4,5,6,7};
      char c[] = {'a','x','h','o','k'};
      printf("%d %d", (&a[3]-&a[0]),(&c[3]- &c[0]));
      }
```

ans: 3 3

426.
```
main()
      {
      struct s1 {int i; };
      struct s2 {int i; };
      struct s1 st1;
      struct s2 st2;
      st1.i =5;
```

```
        st2 = st1;
        printf(" %d " , st2.i);
        }
```

ans: error (different struct variables should not assigned using "=" operator.)

427.
```
main()
        {
        int i,j;
        int mat[3][3] ={1,2,3,4,5,6,7,8,9};
        for (i=2;i>=0;i--)
        for (j=2;j>=0;j--)
        printf("%d" , *(*(mat+j)+i));
        }
```

ans: 963852741

428.
```
main()
        {
        int n=10;
        fun(n);
        }
int fun( int n)
        {
        int i;
        for(i=0;i<=n;i++)
        fun(n-i);
        printf(" well done");
        }
```
howmany times is the printf statement executed for n=10?

ans: Before reaching to printf statement it will goes to infinite loop.

429.
```
main()
        {
        struct emp{
        char emp[];
        int empno;
        float sal;
        };
        struct emp member = { "TIGER"};
        printf(" %d %f", member.empno,member.sal);
```

ans: error(array size is not declared if it is declared ans is 0 0.000000)

430.
```
# define infiniteloop while(1)
main()
```

```
        {
        infiniteloop;
        printf("DONE");
        }
```

ans: infiniteloop in main ends with ";" . so loop will not reach end;and the DONE also will not print.

431.
```
main()
        {
        int a=2, b=3;
        printf(" %d ", a+++b);
        }
```

ans: 5

432.
```
#define prn(a) printf("%d ",a)
#define print(a,b,c) prn(a), prn(b), prn(c)
#define max(a,b) (a<b)? b:a

main()
        {
        int x=1, y=2;
        print(max(x++,y),x,y);
        print(max(x++,y),x,y);
        }
```

ans: 2 2 2 3 4 2

433.
```
#define PRINT(int) printf("int=%d ",int);
main()
        {
        int x,y,z;
        x=03;y=-1;z=01;
        PRINT(x^x);
        z<<=3;PRINT(z);
        y>>=3;PRINT(y);
        }
```

ans: int=0 int=8 int=-1

434.
```
main()
        {
        int i;
        i=1;
        i=i+2*i++;
        printf("%d",i);
        }
```

ans: 4

435.
```
main()
{
char ch='A';
while(ch<='F')
{
switch(ch)
{
case'A':case'B':case'C':case'D':ch++;continue;
case'E':case'F':ch++;
}
putchar(ch);
}
}
```

ans: FG

436.
```
main()
{
int a=1, b=2, c=3, *pointer;
pointer=&c;
a=c/*pointer;
b=c;
printf ("a=%d b=%d",a,b);
}
```

ans: error (there should be space between / and * otherwise it will be starting of comment)

437.
```
#define MAN(x,y) (x)>(y)?(x):(y)
main()
{
int i=10,j=5,k=0;
k= MAN(i++,++j);
printf("%d %d %d %d",i,j,k);
}
```

ans: 12 6 11 garbage value

438.
```
main()
{
int a=10,b=5, c=3,d=3;
if(a<b)&&(c=d++)
printf("%d %d %d %d" ,a,b,c,d);
else printf("%d %d %d %d", a,b,c,d);
}
```

ans: error (if condition should be parenthesis)

439.
```
main(int size of arg ,char *arg[])
{
while(size of arg)
```

```
        printf("%s",arg[--size of arg]);
        }
```

ans: error (no space between sizeofarg)

440.
```
main(int sizeofarg ,char *arg[])
        {
        while(sizeofarg)
        printf("%s",arg[--sizeofarg]);
        }
```

ans: f:\progr.exe

441.
```
main()
        {
        int i=3;
        while(i--)
        {
        int i=100;
        i--;
        printf("%d..",i);
        }
        }
```

ans: 99..99..99..

442.
```
main()
        {
        int rows=3,colums=4;
        int a[rows][colums]={1,2,3,4,5,6,7,8,9,10,11,12};
        int i, j,k; i=j=k=99;
        for(i=0;i<rows;i++)
        for(j=0;j<colums;j++)
        if(a[k][j]<k) k=a[i][j];
        printf("%d\n",k);
        }
```

ans: error (constant expression required in array dimension)

443.
```
main()
        {
        int x=10,y=15;
        x=x++;
        y=++y;
        printf("%d %d\n",x,y);
        }
```

ans: 11 16

444.
```
main()
```

```
{
int x=20,y=35;
x = y++ + x++;
y = ++y + ++x;
printf("%d %d\n",x,y);
}
```

ans: 57 94

445.
```
main()
{
char *p1="Name";
char *p2;
p2=(char *)malloc(20);
while(*p2++=*p1++);
printf("%s\n",p2);
}
```

ans: unknown string will be printed pointer p2 points to next character to null character.

446.
```
main()
{
int x=5;
printf("%d %d %d\n",x,x<<2,x>>2);
}
```

ans: 5 20 1

447.
```
#define swap1(a,b) a=a+b;b=a-b;a=a-b;
main()
{
int x=5,y=10;
swap1(x,y);
printf("%d %d\n",x,y);
swap2(x,y);
printf("%d %d\n",x,y);
}

int swap2(int a,int b)
{
int temp;
temp=a;
b=a;
a=temp;
return;
}
```

ans: 10 5
10 5 (swap2 won't swap x and y)

448.
```
main()
{
char *ptr = "Ramco Systems";
(*ptr)++;
printf("%s\n",ptr);
ptr++;
printf("%s\n",ptr);
}
```

ans: Samco Systems
amco Systems

449.
```
main()
{
char s1[]="Ramco";
char s2[]="Systems";
s1=s2;
printf("%s",s1);
}
```

ans: error (lvalue required)

450.
```
main()
{
char *p1;
char *p2;
p1=(char *) malloc(25);
p2=(char *) malloc(25);
strcpy("Ramco",p1);
strcpy(p2,"Systems");
strcat(p1,p2);
printf("%s",p1);
}
```

ans: RamcoSystems

451.
```
main()
{
char a[2];
*a[0]=7;
*a[1]=5;
printf("%d",&a[1]-a);
}
```

ans: error (invalid indirection)

452.
```
main()
{
char a[]="hellow";
char *b="hellow";
char c[5]="hellow";
```

```
        printf("%s %s %s ",a,b,c);
        printf(" ",sizeof(a),sizeof(b),sizeof(c));
        }
```

ans: error (Too many initializers)

453.
```
main()
        {
        char a[]="hellow";
        char *b="hellow";
        char c[7]="hellow";
        printf("%s %s %s ",a,b,c);
        printf("%d %d %d ",sizeof(a),sizeof(b),sizeof(c));
        }
```

ans: hellow hellow hellow 7 4 7 (pointer takes 4 bytes)

454.
```
int a[10]={60,57,10,5,4,3,2,8,9};

main()
        {
        int varx,vary,i;
        for (i=0;i<10;i++)
        {
        if(varx<a[i])
        {
        vary=varx;
        varx=a[1];
        }
        else if (vary<a[i])
        {
        varx=vary;
        vary=a[i];
        }
        printf("%d %d \n",varx,vary);
        }
        }
```

ans: garbage values of varx and vary are printed 10 times

455.
```
#define SWAP(x,y) t=x;x=y;y=t;
main()
        {
        int x=5,y=6;
        if (x>y)
        SWAP(x,y);
        printf("x=%d y=%d\n",x,y);
        }
```

ans: error (undefined symbol t)

456.
```
main()
      {
      int i=6;
      int j;
      j=sum(i);
      printf("%d",j);
      }
sum(int x)
      {
      int t;
      if(x<=1) return (1);
      t=sum(x-3)+sum(x-1);
      return (t);
      }
```

ans: 9

457.
```
main()
      {
      int a[]={0,2,4,6,8};
      int *ptr;
      ptr=a;
      printf("%d", *((char *) ptr+4));
      }
```

ans: 4

458.
```
main()
      {
      int I=3;
      while(I--)
      {int I=100;
      I--;
      printf("%d", I);
      }
      }
```

ans: 999999

459.
```
main()
      {
      char ch;
      for(ch='0';ch<=255;ch++)
      printf("%c", ch);
      }
```

ans: infinite loop (signed character varies from -128 to 127)

460. x=3

function(++x)...value 4 is passed to the function

x=3
function(x++)...value 3 is passed to the function

461. What is runtime locatable code?

What is volatile, register definition in C

What is compiler and what its output.

462. which of the following is illegal for the program?

```
main()
      {
      char const *p='p';
      }
```

1)p++ 2) *p++ 3)(*p)++ 4) all

ans: 3 (*p)++ (cannot modify a constant object)

463.

```
#define putchar(c) printf("%c",c)
main()
      {
      int c='d';
      putchar(c);
      }
```

ans: d

464.

```
void main (void)
      {
      printf("%d", printf("ABC\\"));
      }
```

ans: ABC\4

465.

```
void main(void)
      {
      int a[10], i;
      int *b;
      b=( int*) malloc(10* sizeof(int)) ;
      *b =&a[3];
      for(i=0;i<10;i++)
      a[i] =i+10;
      printf("%d",b[-1]);
      }
```

ans: error (nonportable pointer conversion)

466. void main(void)

```
{
int a[10], i;
int *b;
b=( int*) malloc(10* sizeof(int)) ;
b =&a[3];
for(i=0;i<10;i++)
a[i] =i+10;
printf("%d",b[-1]);
}
```

ans: 12

467.
```
main()
{
int a[10]={1,2,3,4,5,6,7,8,9,10};
int *p=a;
int *q=&a[9];
printf("%d",q-p+1);
}
```

ans: 10

468.
```
main()
{
int i=6;
int *p=&i;
free(p);
printf("%d",i);
}
```

ans: 6

469.
```
main()
{
int i=5;
i=!i>3;
printf("%d",i);
}
```

ans: 0

470.
```
main()
{
int a[10];
3[a]=10;
printf("%d",*(a+3));
}
```

ans: 10

471.
```
int (*p[10]) ();
```

ans: p is array of pointers that each points to a function that takes no arguments and returns an int.

472.
```
struct emp
      {
      int a=25;
      char b[20]="tgk";
      };
main()
      {
      emp e;
      e.a=2;
      strcpy(e.b,"tellapalli");
      printf("%d %s",e.a,e.b);
      }
```

ans: error (structure members should not be initialized directly and struct keyword should be there before emp e;)

473.
```
main()
      {
      int a=5;
      const int *p=&a;
      *p=200;
      printf("%d",*p);
      }
```

ans: error (cannot modify a constant object)

474.
```
#define SQ(x) x*x
main()
      {
      int a=SQ(2+1);
      printf("%d",a);
      }
```

ans: 5

475.
```
main()
      {
      struct t
      {
      int i;
      } a,*p=&a;
      p->i=10;
      printf("%d",(*p).i);
      }
```

ans: 10

476. a) for(int i=0; i<50 ;i++)
for(int j=0; j<100; j++)
a[i][j]=100;
b) for(int i=0; i<100 ;i++)
for(int j=0; j<50; j++)
a[j][i]=100;

Which of the above 2 codes executes quickly.

ans: a-code takes 5050 comparisons and 5050 increments and b-code takes 5100 comparisons and 5100 increments. So a-code executes quickly (which is having outer loop count less)

477. i) (*ptr)++;
ii) *ptr+=1;
iii) *ptr++;

which of the folowing is same.

ans: i) and ii) are same

478.
```
void main()
      {
      char *s="susan";
      clrscr();
      printf(s);
      getch();
      }
```

ans: susan

479.
```
void main()
      {
      int a[20];
      clrscr();
      *a=(int*)malloc(sizeof(a));
      printf("%d",sizeof(a));
      getch();
      }
```

ans: error (nonportable pointer conversion)

480.
```
void main()
      {
      void fun(int,int);
      int i ,j;
      i=2,j=3;
      fun(i++,j++);
```

```
            printf("%d %d",i,j);
            getch();
            }
      void fun(int i,int j)
            {
            i++,j++;
            }
```

ans: 3 4 (no syntax error in function as it is a comma operator)

481.
```
      void main()
            {
            int ctr=0;
            clrscr();
            switch(ctr)
            {
            case 0:
            ctr++;
            case 1:
            ctr++;

            default :
            ctr++;
            };
            printf("%d",ctr);
            getch();
            }
```

ans: 3

482.
```
      #define putchar(c) printf("%c",c);
      main()
            {
            int c=69;
            putchar(c);
            }
```

ans: E

483.
```
      main()
            {
            printf("%d",printf("ABC//"));
            }
```

ans: ABC//5

484.
```
      main()
            {
            int i=6;
            printf("%d",func(i));
```

```
        }
    int func(int r)
        {
        int static result;
        if(r<=0) result=1;
        else
        result=func(r-3)+func(r-1);
        return result;
        }
```

ans: 13

485.
```
main()
        {
        int i=3;
        while(i--)
        {
        int i=100;
        i--;
        printf("%d..",i);
        }
        }
```

ans: 99..99..99..

486.
```
#define putchar(c) printf("%c",c)
    void main()
        {
        char s='c';
        putchar (s);
        }
```

ans: c

487.
```
#define putchar (c) printf("%c",c)
    void main()
        {
        char s='c';
        putchar (s);
        }
```

ans: error (gap should not be there between putchar and (c))

488.
```
void main()
        {
        int a[]={9,4,1,7,5};
        int *p;
        p=&a[3];
        printf("%d",p[-1]);
        }
```

ans: 1

489.
```
void main()
{
int a[]={10,20,30,40,50};
int *p;
p= (int*)((char *)a + sizeof(int));
printf("%d",*p);
}
```

ans: 20

490. Which code will run faster

```
for(i=0;i<100;i++)
for(j=0;j<10;j++)
a[i][j]=0;
```

OR

```
for(j=0;j<10;j++)
for(i=0;i<100;i++)
a[i][j]=0;
```

ans: first code (1100 increments 1100 comparisons)
second code (1010 increments 1010 comparisons)
second code will run faster (which is having outer loop count less)

500.
```
main()
{
void print(int);
int i=5;
print(i);
}
void print(int n)
{
if(n>0)
{
print(n-1);
printf("%d",n);
print(n-1);
}
}
```

ans: 1213121412131215121312141213121

501.
```
int * f(int a)
{
int i;
```

```
i=a;
return(&i);
}
```

ans: we can't return address of auto variable as it is allocation is made in stack which is deallocated when the function returns.

502. (1)To find string length by using recursive function.
(2)To find fibonaci series by using recursive function.
(3)To write code for malloc so that allocation may be made fastly.
(4)Write a fn prototype which return a pointer which points to an array of 10 ints.

ans: int (*f())[10]

503.
```
void main ()
      {
      int a[]={101,201,301,401,501,601,701,801,901,001};
      int *p; clrscr ();
      printf("%d ",a);
      printf("arthi ");
      printf("%d ", ((char *)a + sizeof(int)));
      p=(int *) ((char *) a +sizeof (int));
      printf("%d",*p);
      }
```

ans: 8684 arthi 8686 201 (address of a = 8684)

504.
```
void main ()
      {
      int a[]={101,201,301,401,501,601,701,801,901,001};
      int *p; clrscr ();
      printf("%d ",a);
      printf("arthi ");
      printf("%d ", ((char *)-a + sizeof(int)));
      p=(int *) ((char *) a +sizeof (int));
      printf("%d",*p);
      }
```

ans: error (illegal use of pointer)

505.
```
main ()
      {
      int a[10]={10,9,8,7,6,5,4,3,2,1};
      clrscr();
      int *p=a;
      int *q=&a[7];
      printf("%d %d ",q,p);
```

```
}
```

ans: error (declaration is not allowed here since clrscr() function is there. Declaration should come before any executable statement)

506.
```
main()
{
printf("%d",printf("HelloSoft"));
}
```

ans: HelloSoft9

507.
```
main()
{
int i=3;
printf("%d %d %d",i++,i,++i);
}
```

ans: 4 4 4

508.
```
main()
{
int i=10;
int j,k=5;
int a[10];
for(j=0;j<10;j++)
a[j]=(i+k)+(i*k);
}
```
Optimize the above code.

ans:
```
main()
        {
        int i=10,k=5,j,a[10];
        for(j=0;j<10;j++)
        a[j]=65;
        }
```

509.
```
main()
{
int *p=0x100;
int *q=0x100;
int k=p*q;
printf("%x\n",k);
}
```

ans: error (pointer multiplication is not valid)

510.
```
Char* foo(Str...)
{
char str[4];
```

```
 strcpy(str,"HelloSoft");
return str;
      }
```

ans: we can't return address of auto variable as it is allocation is made in stack which is deallocated when the function returns.

511. int a[10][20][30][40];
int *p
How to access an element of a using p?

ans: a[i][j][k][l] *(p+

512.
```
main()
      {
      int i=10;
      if(i>20)
      if(i==10)
      printf("Hi");
      else
      printf("Bye");
      }
```

ans: no output

513. If a row daminated two dimentional arry in the following which one is advantage
and why?

```
a) for(i=0;i<1000;i++)
for(j=0;j<1000;j++)
temp=temp+a[i][j];


b) for(j=0;j<1000;j++)
for(i=0;i<1000;i++)
temp=temp+a[i][j]
```

ans: a (just it is a guess. In 'a' we are accessing elements which are in adjacent locations. In 'b' we are accessing elements which are 1000 locations apart)

514.
```
void main()
      {
      printf("%d",(float)3/2);
      }
```

ans: 0

515.
```
void main()
```

```
{
char *s="Hello World";
printf("%c",s);
}
```

ans: garbage character

516.
```
void main()
{
char *s="Hello World";
printf("%c",*s);
}
```

ans: H

517.
```
fp,fs;
fp=fopen("tc.dat","w");
fs=fopen("tc.dat","w");
putch('A',fp);
putch('B',fs); What will happen?
```

ans: A is overwritten by B

518. What is the equivalent of a[i]

ans: *(a+i)

519. **int (*func)(int,int)** is a pointer to a function with 2 integers as parameters and returning an integer value.

520. **int *(*func)(int *,int *)** is a pointer to a function with 2 integer pointers as parameters and returning a pointer to an integer

521. switch(float value)

ans: compiler error

522.
```
main()
{
int a[5]={1,2,3,4,5};
int *p=a+1;
int *q=a+5;
int dif=q-p;
printf("%d", dif);
}
```

ans: 4

523. switch(NULL)

ans: case 0: will be executed.

524.
```
#define exp 5
main()
      {
      printf("%d",exp++);
      }
```

ans: lvalue required

525.
```
strcat(str,str);
```

ans: compilation error (destination string length should accommodate both the strings)

526. **int(*ptr)[10]**

ans: pointer to array of 10 integers.

527.
```
int main()
      {
      char *str = "Hello, world" ;
      printf("%5s" , str);
      }
```

ans: Hello, world (when the field width is less than the length of the string the entire string is printed)

528. **int *ptr[10];**

ans: declaration of 10 pointers

529.
```
int main()
      {
      extern int i;
      printf("%d" , i);
      }
```

ans: linker error

530.
```
void temp();
void temp(void);
int main()
      {
      temp();
      }
      void temp()
      {
      printf("C is exciting!");
      }
```

ans: C is exciting!

531.
```
void temp();
```

```
void temp(void);
int main()
      {
      temp();
      }
      void temp(void)
      {
      printf("C is exciting!");
      }
```

ans: C is exciting!

532.
```
void temp();
void temp(void);
int main()
      {
      temp(void);
      }
      void temp()
      {
      printf("C is exciting!");
      }
```

ans: compiler error (syntax error)

533.
```
void temp(int i)
      {
      if(i == 10) return;
      i++ ;
      temp(i);
      printf("%d " , i);
      }
int main()
      {
      temp(1);
      }
```

ans: 10 9 8 7 6 5 4 3 2

534. some question on "strtok" function

535.
```
int main()
      {
      char *str = "Hello, world";
      int i = sizeof(str);
      for( ; i >= 0 ; i--)
      printf("%c" , str[i]);
      }
```

ans: olleH (sizeof pointer is 4 bytes)

536.
```
int main()
      {
      int a = MAX( 4+2 , 3*2) ;
      printf(" %d " , a);
      }
```

ans: 6

537.
```
main()
      {
      int x;
      printf("\n%d",x=0,x=20,x=40);
      }
```

ans: 0

538.
```
main()
      {
      int a[]={1,2,5,6,9,10};
      int *b=&a[4];
      printf("\n%d",b[-3]);
      }
```

ans: 2

539.
```
main()
      {
      int x=0,y=1;
      if(x=y)
      y= 7;
      else
      y=2;
      printf("%d", y);
      }
```

ans: 7

540.
```
main()
      {
      int i=39,count=0;
      while( i & 1) //some condition like this
      {
      count++;
      i=i>>1;
      }
      printf("%d",count);
      }
```

ans: 3

541.
```
main()
```

```
        {
        int i=39,count=0;
        while( i & 1) //some condition like this
        {
        count++;
        i>>1;
        }
        printf("%d",count);
        }
```

ans: infinite loop

542.
```
main()
        {
        int x=128;
        printf("\n%d",1+x++);
        }
```

ans: 129

543.
```
main()
        {
        FILE *f1;
        FILE *f2;
        f1=fopen("myfile","w");
        f2=fopen("myfile","w");
        fputc('A',f1);
        fputc('B',f2);
        fclose(f1);
        fclose(f2);
        }
```
what does f1 n f2 conatins?

ans: B

544. if i/p is **code friday monday sunday** in commad line then
```
main(int argc,char *argv[])
        {
        printf("\n%c",***++argv);
        }
```

ans:may be f

545.
```
#define max 10
main()
        {
        printf("\n%d",max++);
        }
```

ans: error (lvalue required)

546. main()
```
{
int a[]={1,2,9,8,6,3,5,7,8,9};
int *p=a+1;
int *q=a+6;
printf("\n%d",q-p);
}
```

ans: 5

547. main()
```
{
int i=3;
while(i--){
int i=100;
i--;
printf("%d ",i);
}
}
```

ans: 99 99 99

548. what does (*a)[10] means?

ans: a is pointer to an array of 10 integers

549. Open a file "input" and print the odd number of lines first on the screen and then
even number of lines..something like that.....

550. main()
```
{
int x=5, y;
y= x*x++ * ++x ;
printf("%d %d",x,y);
}
```

ans: 7 216

551. main()
```
{
int a=10,b=5;
while(--b>=0 && ++a)
{
--b;
++a;
}
printf("%d %d",a,b);
}
```

ans: 16 -2

552.
```
main()
{
char i;
for (i=0; i<=255; i++)
{
printf("%c", i);
}
}
```

ans: infinite loop (signed char range is -128 to 127)

553.
```
main()
{
int i=0;
switch(i)
{
case 1: printf("hi");
case 0: printf("zero");
case 2: printf("world");
}
}
```

ans: zeroworld

554.
```
struct XXX
{
int a:6;
float b:4;
char s;
}structure;
main()
{
printf("%d",sizeof(structure));
}
```

ans: error (bit fields must be signed or unsigned int)

555.
```
struct XXX
{
int a:6;
/*float b:4;*/
char s;
}structure;
main()
{
printf("%d",sizeof(structure));
}
```

ans: 2

556.
```
struct XXX
      {
      int a:6;
      /*char s;*/
      }structure;
main()
      {
      printf("%d",sizeof(structure));
      }
```

ans: 1

557.
```
struct XXX
      {
      int a;
      char s;
      }structure;
main()
      {
      printf("%d",sizeof(structure));
      }
```

ans: 3

558.
```
main()
      {
      char *s;
      s="hot java";
      strcpy(s,"solaris java");
      printf("%s",s);
      }
```

ans: solaris java (extra locations will be overwritten)

559.
```
main()
      {
      char *p='a';
      int *i=100/ *p;
      printf("%d",i);
      }
```

ans: error (nonportable pointer conversion)

560.
```
main()
      {
      int n=5;
      printf("\nn=%*d",n,n);
      }
```

ans: n=   5 (width specifier %5d right justified)

561. How long the following program will run?

```
main()
      {
      printf("\nSonata Software");
      main();
      }
```

ans: until the stack overflows

562.

```
main()
      {
      const int x=5;
      int *ptrx;
      ptrx=&x;
      *ptrx=10;
      /*x=10;*/
      printf("%d",x);
      }
```

ans: 10 (you can change a constant object by using a pointer)

563.

```
main()
      {
      const int x=5;
      int *ptrx;
      ptrx=&x;
      *ptrx=10;
      x=15;
      printf("%d",x);
      }
```

ans: error (cannot modify a constant object)

564.

```
main()
      {
      const char *fun();
      *fun()="A";
      }
const char *fun()
      {
      return "Hello";
      }
```

ans: error (cannot modify a constant object) fun() returns to a "const char" pointer which cannot be modified

565. What error would the following function give on compilation?

```
f(int a, int b)
```

```
{
int a;
a=20;
return a;
}
```

ans: error (redeclaration of a)

566. Would the following program compile?

```
main()
{
int a=10,*j;
void *k; j=k=&a;
j++;
k++;
printf("\n%u%u",j,k);
}
```

ans: No, the arithmetic operation is not permitted on void pointers. Size of the type is unknown.

567. In the following program how would you print 50 using p?

```
main()
{
int a[]={10, 20, 30, 40, 50};
char *p;
p= (char*) a;
}
```

ans: printf("%d",*((int*)p+4)); or printf("%d",*(p+8));

568. Point out the error in the following program

```
main()
{
int a=10;
void f();
a=f();
printf("\n%d",a);
}
void f()
{
printf("\nHi");
}
```

ans: error (not an allowed type). The program is trying to collect the value of a "void" function into an integer variable.

569. If the following program (myprog) is run from the command line as **myprog friday tuesday sunday**, What would be the output?

```
main(int argc, char *argv[])
```

```
        {
        while(sizeof(argv))
        printf("%s",argv[--sizeof(argv)]);
        }
```

ans:

570. If the following program (myprog) is run from the command line as **myprog friday tuesday sunday**, What would be the output?

```
main(int argc, char *argv[])
        {
        printf("%c",*++argv[1]);
        }
```

ans: r (check it out)

571. If the following program (myprog) is run from the command line as myprog friday tuesday sunday, What would be the output?

```
main(int argc, char*argv[])
        {
        printf("%c",***++argv);
        }
```

ans: f (check it out)

572.
```
main()
        {
        char near * near *ptr1;
        char near * far *ptr2;
        char near * huge *ptr3;
        printf("%d %d
%d",sizeof(ptr1),sizeof(ptr2),sizeof(ptr3));
        }
```

ans: 2 4 4

573. What is the difference between the following declarations?

```
const char *const s; char const *const s;
```

ans. No difference

574. What is the difference between the following declarations?

```
const char *s;
char const *s;
```

ans. No difference

575.
```
main()
        {
        int y=128;
        const int x; x=y;
```

```
        printf("%d",x);
        }
```

ans: error (cannot modify a constant object)

576.
```
main()
        {
        int y=128;
        const int x=y;
        printf("%d",x);
        }
```

ans: 128 (when not initialized const variable will have garbage value)

577.
```
main()
        {
        const int x;
        x=128;
        printf("%d",x);
        }
```

ans: error (cannot modify a constant object. x should have been initialized where it is declared)

578. In the following code, is p2 an integer or an integer pointer?

```
typedef int* ptr
ptr p1,p2;
```

ans. Integer pointer

579. If the following program (myprog) is run from the command line as **myprog monday tuesday wednesday thursday**, What would be the output?

```
main(int argc, char *argv[])
        {
        while(--argc >0)
        printf("%s",*++argv);
        }
```

ans: monday tuesday wednesday Thursday

580. If the following program (myprog) is run from the command line as myprog 1 2 3, What would be the output?

```
main(int argc, char *argv[])
        {
        int i,j=0;
        for(i=0;i<argc;i++)
        j=j+ atoi(argv[i]);
        printf("%d",j);
        }
```

ans: check out

581. If the program (myprog) is run from the command line as myprog 1 2 3 , What would be the output?

```
main(int argc, char *argv[])
      {
      int i;
      for(i=0;i<argc;i++)
      printf("%s",argv[i]);
      }
```

ans: C:\MYPROG.EXE 1 2 3

582.
```
main()
      {
      FILE *fp;
      fp= fopen("trial","r");
      }
```
fp points to:

ans: A structure which contains a "char" pointer which points to the first character in the file.

583. What is the type of the variable b in the following declaration?

```
#define FLOATPTR float*
FLOATPTR a,b;
```

ans: float

584.
```
#define FLOATPTR float*
main()
      {
      FLOATPTR a,b;
      b=10.0;
      }
```

ans: b is a float variable (no error)

585.
```
typedef float* FLOATPTR;
main()
      {
      FLOATPTR a,b;
      b=10.0;
      }
```

ans: error (illegal use of floating point. Here b is a floating pointer variable. Observe the difference between marco and typedef in 584 and 585 problems)

586.
```
#define SQR(x) (x*x)
main()
      {
      int a,b=3;
      a= SQR(b+2);
      printf("%d",a);
      }
```

ans: 11

587.
```
main()
      {
      int i=4;
      switch(i)
      {
      default:
      printf("\n A mouse is an elephant built by the
Japanese");
      case 1:
      printf(" Breeding rabbits is a hair raising
experience");
      break;
      case 2:
      printf("\n Friction is a drag");
      break;
      case 3:
      printf("\n If practice make perfect, then nobody's
perfect");
      }
      }
```

ans: A mouse is an elephant built by the Japanese
Breeding rabbits is a hair raising experience

588. In the following code, in which order the functions would be called?

```
a= f1(23,14)*f2(12/4)+f3();
```

ans: f1, f2, f3

589.
```
f3()
      {
      printf("three ");
      return 1;
      }

f1(int x, int y)
      {
      printf("one ");
      return(x+y);
      }
```

```
f2(int x)
      {
      printf("two ");
      return x;
      }

main()
      {
      int a;
      a= f1(23,14)*f2(12/4)+f3();
      printf("%d",a);
      }
```

ans: one two three 112

590.
```
main()
      {
      int a=10,b;
      a<= 5 ? b=100 : b=200;
      printf("\n%d",b);
      }
```

ans: error (lvalue required. Conditional operator has highest priority than assignment operator)

591.
```
main()
      {
      int a=10,b;
      a<= 5 ? b=100 : (b=200);
      printf("\n%d",b);
      }
```

ans: 200

592.
```
main()
      {
      int a=10,b;
      a>= 5 ? b=100 : (b=200);
      printf("\n%d",b);
      }
```

ans: 100

593.
```
main()
      {
      int i=1;
      switch(i)
      {
      case 1:
      printf("\nRadioactive cats have 18 half-lives");
      break;
```

```
            case 1*2+4:
            printf("\nBottle for rent -inquire within");
            break;
            }
            }
```

ans: Radioactive cats have 18 half-lives (no error)

```
594.  main()
            {
            int i=2;
            printf("I=%d i=%d",++i,++i);
            }
```

ans: I=4 i=3

```
595.  main()
            {
            unsigned char i=0x80;
            printf("i=%d",i<<1);
            }
```

ans: i=256

```
596.  main()
            {
            unsigned char i=0x80;
            i=i<<1;
            printf("i=%d",i);
            }
```

ans: i=0

```
597.  main()
            {
            int B=0xFFFF;
            ~B ;                              /*  note: not assigned
to B */
            printf("%d",B);
            }
```

ans: -1

```
598.  main()
            {
            unsigned int B=0xFFFF;
            ~B ;
            printf("%d",B);
            }
```

ans: -1

599. main()
{
unsigned int B=0xFFFF;
~B ;
printf("%u",B);
}

ans: 65535

600. Func(int a, intb)
{
int a;
a=10;
return a;
}
will there be any error?

ans: error (redeclaration of a)

601. string is given **myprog one two three** Where myprog is an exe file. What will the output of the following program ?

main(int argc, char *argv[])
{
printf("%c"++**argv);
}

ans: n (check it out)

602. **#define SQR(b) b*b;**
main()
{
int i=3;
printf("%d",SQR(i+2));
}

ans: error (semicolon in macro definition will cause error when it is replaced in printf statement)

603. #define SQR(b) b*b
main()
{
int i=3;
printf("%d",SQR(i+2));
}

ans: 11

604. main()
{

```
      char c='a';
      printf("%d %d", sizeof(c),sizeof('a'));
      }
```

ans: 1 2

605.
```
main()
      {
      char c='a';
      Printf("%d %d", sizeof(c),sizeof('a'));
      }
```

ans: linker error (undefined symbol_Printf)

606.
```
main()
      {
      Char c='a';
      printf("%d %d", sizeof(c),sizeof('a'));
      }
```

ans: error (undefined symbol 'Char' , undefined symbol 'c' , statement missing ;)

607.
```
void main(void)
      {
      struct s
      {
      int x;
      float y;
      }s1={25,45.00};
      union u
      {
      int x;
      float y;
      }u1;
      u1=(union u)s1;
      printf("%d and %f",u1.x,u1.y);
      }
```

ans: error (incompatible type conversion)

608.
```
int fn(void);
void print(int,int(*)());
      int i=10;

void main(void)
      {
      int i=20;
      print(i,fn);
      }
```

```
      void print(int i,int (*fn1)())
            {
            printf("%d\n",(*fn1)());
            }

      int fn(void)
            {
            return(i-=5);
            }
```

ans: 5

609.
```
      void main(void)
            {
            char numbers[5][6]={"Zero","One","Two","Three","Four"};
            printf("%s is %c",&numbers[4][0],numbers[0][0]);
            }
```

ans: Four is Z

610.
```
      void main(void)
            {
            int y,z;
            int x=y=z=10;
            int f=x;
            float ans=0.0;
            f *=x*y;
            ans=x/3.0+y/3;
            printf("%d %.2f",f,ans);
            }
```

ans: 1000 6.33

611.
```
      double dbl=20.4530,d=4.5710,dblvar3;
      void main(void)
            {
            double dbln(void);
            dblvar3=dbln();
            printf("%.2f\t%.2f\t%.2f\n",dbl,d,dblvar3);
            }
      double dbln(void)
            {
            double dblvar3;
            dbl=dblvar3=4.5;
            return(dbl+d+dblvar3);
            }
```

ans: 4.50 4.57 13.57

612.
```
      void main(void)
            {
```

```
        int oldvar=25,newvar=-25;
        int swap(int,int);
        swap(oldvar,newvar);
        printf("Numbers are %d\t%d",newvar,oldvar);
        }
    int swap(int oldval,int newval)
        {
        int tempval=oldval;
        oldval=newval;
        newval=tempval;
        }
```

ans: Numbers are -25 25

613.
```
    void main(void)
        {
        int i=100,j=20;
        i++ =j;
        i*=j;
        printf("%d\t%d\n",i,j);
        }
```

ans: error (lvalue required)

614.
```
    int newval(int);
    void main(void)
        {
        int ia[]={12,24,45,0};
        int i;
        int sum=0;
        for(i=0;ia[i];i++)
        {
        sum+=newval(ia[i]);
        }
        printf("Sum= %d",sum);
        }
    int newval(int x)
        {
        static int div=1;
        return(x/div++);
        }
```

ans: Sum= 39

615.
```
    void main(void)
        {
        int var1,var2,var3,minmax;
        var1=5;
        var2=5;
        var3=6;
```

```
            minmax=(var1>var2)?(var1>var3)?var1:var3:(var2>var3)?
var2:var3;
            printf("%d\n",minmax);
            }
```

ans: 6 (maximum of three numbers)

```
616.  static int i=50;
      int print(int i);
      void main(void)
            {
            static int i=100;
            while(print(i))
            {
            printf("%d ",i);
            i--;
            }
            }
      int print(int x)
            {
            static int i=2;
            return(i--);
            }
```

ans: 100 99

```
617.  void main(void);
      typedef struct NType
            {
            int i;
            char c;
            long x;
            }NewType;

      void main(void)
            {
            NewType *c;
            c=(NewType *)malloc(sizeof(NewType));
            c->i=100;
            c->c='C';
            (*c).x=100L;
            printf("(%d,%c,%4Ld)",c->i,c->c,c->x);
            }
```

ans: (100,C, 100)

```
618.  main()
            {
            char *p1="Name";
            char *p2;
            p2=(char *)malloc(20);
```

```
        while(*p2++=*p1++);
        printf("%s\n",p2);
        }
```

ans: an empty string (no output)

619.
```
main()
        {
        int x=20,y=35;
        x = y++ + x++;
        y = ++y + ++x;
        printf("%d %d\n",x,y);
        }
```

ans: 57 94

620.
```
main()
        {
        int x=5;
        printf("%d %d %d\n",x,x<<2,x>>2);
        }
```

ans: 5 20 1

621.
```
#define swap1(a,b) a=a+b;b=a-b;a=a-b;
main()
        {
        int x=5,y=10;
        swap1(x,y);
        printf("%d %d\n",x,y);
        swap2(x,y);
        printf("%d %d\n",x,y);
        }
int swap2(int a,int b)
        {
        int temp;
        temp=a;
        b=a;
        a=temp;
        return;
        }
```

ans: 10 5
10 5

622.
```
#define swap1(a,b) a=a+b;b=a-b;a=a-b;
main()
        {
        int x=5,y=10;
        swap1(x,y)
        printf("%d %d\n",x,y);
```

```
      swap2(x,y);
      printf("%d %d\n",x,y);
      }
int swap2(int a,int b)
      {
      int temp;
      temp=a;
      b=a;
      a=temp;
      return;
      }
```

ans: 10 5
10 5

623.
```
#define swap1(a,b) a=a+b;b=a-b;a=a-b
main()
      {
      int x=5,y=10;
      swap1(x,y)
      printf("%d %d\n",x,y);
      swap2(x,y);
      printf("%d %d\n",x,y);
      }
int swap2(int a,int b)
      {
      int temp;
      temp=a;
      b=a;
      a=temp;
      return;
      }
```

ans: error (statement missing ;)

624.
```
main()
      {
      char *ptr = "Ramco Systems";
      (*ptr)++;
      printf("%s\n",ptr);
      ptr++;
      printf("%s\n",ptr);
      }
```

ans: Samco Systems
amco Systems

625.
```
main()
      {
      char s1[]="Ramco";
      char s2[]="Systems";
```

```
        s1=s2;
        printf("%s",s1);
        }
```

ans: error (lvalue required)

626.
```
main()
        {
        char *p1;
        char *p2;
        p1=(char *) malloc(25);
        p2=(char *) malloc(25);
        strcpy(p1,"Ramco");
        strcpy(p2,"Systems");
        strcat(p1,p2);
        printf("%s",p1);
        }
```

ans: RamcoSystems

627.
```
main()
        {
        int x=10,y=15;
        x=x++;
        y=++y;
        printf("%d %d\n",x,y);
        }
```

ans: 11 16

628.
```
main()
        {
        int a=0;
        if(a=0) printf("Ramco Systems\n");
        printf("Ramco Systems\n");
        }
```

ans: Ramco Systems

629.
```
main()
        {
        int a=0;
        if(a==0) printf("Ramco Systems\n");
        printf("Ramco Systems\n");
        }
```

ans: Ramco Systems
Ramco Systems

630.
```
int SumElement(int *,int);
void main(void)
```

```
        {
        int x[10];
        int i=10;
        for(;i;)
        {
        i--;
        *(x+i)=i;
        }
        printf("%d",SumElement(x,10));
        }
int SumElement(int array[],int size)
        {
        int i=0;
        float sum=0;
        for(;i<size;i++)
        sum+=array[i];
        return sum;
        }
```

ans: 45

631.
```
int printf(const char*,...);
void main(void)
        {
        int i=100,j=10,k=20;
        int sum;
        float ave;
        char myformat[]="ave=%.2f";
        sum=i+j+k;
        ave=sum/3.0;
        printf(myformat,ave);
        }
```

ans: ave=43.33

632.
```
void main(void)
        {
        int a[10];
        printf("%d",((a+9) + (a+1)));
        }
```

ans: error (invalid pointer addition)

633.
```
int bags[5]={20,5,20,3,20};
void main(void)
        {
        int pos=5,*next();
        *next()=pos;
        printf("%d %d %d",pos,*next(),bags[0]);
        }
int *next()
```

```
      {
      int i;
      for(i=0;i<5;i++)
      if (bags[i]==20)
      return(bags+i);
      printf("Error!");
      exit(0);
      }
```

ans: 5 20 5

634.
```
static int i=5;
void main(void)
      {
      int sum=0;
      do
      {
      sum+=(1/i);
      }while(0<i--);
      }
```

ans: error (divide by zero exception)

635.
```
void main(void)
      {
      void pa(int *a,int n);
      int arr[5]={5,4,3,2,1};
      pa(arr,5);
      }
void pa(int *a,int n)
      {
      int i;
      for(i=0;i<n;i++)
      printf("%d ",*(a++)+i);
      }
```

ans: 5 5 5 5 5

636.
```
const int k=100;
void main(void)
      {
      int a[100];
      int sum=0;
      for(k=0;k<100;k++)
      *(a+k)=k;
      sum+=a[--k];
      printf("%d",sum);
      }
```

ans: error (cannot modify a constant object)

637.
```
int k=100;
void main(void)
      {
      int a[100];
      int sum=0;
      for(k=0;k<100;k++)
      *(a+k)=k;
      sum+=a[--k];
      printf("%d",sum);
      }
```

ans: 99

638.
```
main()
      {
      printf("Hello %d",printf("QUARK test? "));
      }
```

ans: QUARK test? Hello 12

639.
```
main()
      {
      int i,j,A;
      for (A = -1;A<=1; A++)
      printf("%d ",!!A);
      }
```

ans: 1 0 1

640.
```
main()
      {
      int i=255;
      printf("%d\t",++(i++));
      }
```

ans: error (lvalue required)

641.
```
main()
      {
      char i = 'a';
      printf("%c %c",i,(++i));
      }
```

ans: b b

642.
```
main()
      {
      int i,j;
      printf("QUARK %s\n",main());
      }
```

ans: There is nothing on the screen and prog waits till the memory lasts and then out of memory run time error.

643.
```
#define f(x) x*x*x
main()
      {
      printf("\n%d",f(2+2));
      }
```

ans: 12

644.
```
main()
      {
      void fun1(void *);
      char a[] = "quark";
      void *temp;
      temp = a;
      fun1(temp);}
void fun1(void *temp1 )
      {
      int t1 = 0;
      while(*((char*)temp1+ t1++ )!='\0') {
      printf("%c",*((char*)temp1 + t1));
      }
      }
```

ans: uark

645.
```
void main()
      {
      int x=3;
      printf("%d %d",x>>1, x<<3);
      }
```

ans: 1 24

646.
```
void main()
      {
      int *x;
      x =(int *) 15;
      }
```

ans: Location 15 in the program space is assigned to pointer x

647. Which of the following functions cannot be called from another file?

a. const void func(){ ……..}
b. extern void func(){……}
c. void func(){……}

d. static void func(){…….}

ans. static

648.
```
int *func()
      {
      static int x=0;
      x++; return &x;
      }
int main()
      {
      int * y = func();
      printf("%d ",(*y)++);
      func();
      printf("%d",*y);
      return 0;
      }
```

ans: 1 3

649.
```
void main()
      {
      unsigned int x= -1;
      int y =0;
      if(y<=x) printf("A is true\n");
      if (y ==(x = -10)) printf("B is true\n");
      if ((int) x>=y) printf("C is true\n");
      }
```

ans: A is true

650.
```
void main()
      {
      int x= -1;
      int y =0;
      if(y<=x) printf("A is true\n");
      if (y ==(x = -10)) printf("B is true\n");
      if ((int) x>=y) printf("C is true\n");
      }
```

ans: no output

651.
```
void main()
      {
      unsigned int x= -1;
      int y =0;
      printf("%d ",x);
      if(y<=x) printf("A is true\n");
      if (y ==(x = -10)) printf("B is true\n");
      if ((int) x>=y) printf("C is true\n");
      }
```

ans: -1 A is true (%d signed integer specifier)

652.
```
void main()
      {
      unsigned int x= -1;
      int y =0;
      printf("%u ",x);
      if(y<=x) printf("A is true\n");
      if (y ==(x = -10)) printf("B is true\n");
      if ((int) x>=y) printf("C is true\n");
      }
```

ans: 65535 A is true (%u unsigned integer specifier)

653. In the following code what is the correct way to increment the variable ptr to point to the next member of the array

```
union intfloat
      {
      int intArray[ 5];
      float floatArray[ 5];
      };
union intfloat arr[20];
void *ptr =arr;
```

ans: ptr = (void*)((union intfloat*)ptr +1);

654.
```
#define PRINTXYZ(x,y,z) printf (#x "=%d\t" #z "=%d\n", x, y)
void main()
      {
      int x, y, z;
      x=0; y=1; z=2;

      x || ++y ||++z;
      PRINTXYZ(x,y,z);

      ++x || ++y && ++z;
      PRINTXYZ(x,y,z);

      ++x && ++y || ++z;
      PRINTXYZ(x,y,z);
      }
```

ans:

x=0 z=2
x=1 z=2
x=2 z=3

655.
```
main()
```

```
{
printf("%d %d", sizeof(NULL), sizeof(""));
}
```

ans: 4 1 (NULL is a pointer so it takes 4 bytes. sizeof empty string is 1)

656.
```
int *check(int,int);
void main()
{
int c,d;
c = check(11,29);
d= check(20,30);
printf("\nc=%u",c);
}
int * check(int i,int j )
{
int *p, *q;
p=&i;
q=&j;
if(i>=95)
return(q);
else
return(p);
}
```

ans: nonportable pointer conversion

657.
```
void main()
{
int a[3][2]={ 1,8,5,7,6,8};
printf("%d",((a+1)-(&a+1)));
}
```

ans: –2. I haven't been able to figure this one out. a is the address of the 2-d array, here a, &a, *a all give the same value, i.e., address of the array. (a+1) gives the address of the second row, it is the same as a[1]. *(a+1) gives the address of the first cell of the second row. **(a+1) gives the value of the element stored in the first cell in the second row. (*(a+1)+1) gives the address of the second cell of the second row. *(*(a+1)+1) gives the value of the element stored in the second cell in the second row.

658.
```
void main()
{
int a[3][2]={ 1,8,5,7,6,8};
printf("%d ",a);
printf("%d ",&a);
printf("%d ",*a);
```

```
}
```

ans: 8682 8682 8682 (all are same)

659.
```
main()
{
char str1[]="Hello";
char str2[]="Hello";
if(str1==str2 && (*(str1+6)== *(str2+6)) )
printf("\n Equal");
else
printf("\n unequal");
}
```

ans: unequal

660.
```
main()
{
int a, b=255,c=127;
a=~b;
c=c^(~a & b|0);
c=c^(~(~b));
printf("%d\n",c);
}
```

ans: 127

661.
```
#define f(a,b) a+b
#define g(x,y) x*y
main()
{
int i;
i=f(4,g(5,6));
printf("%d",i);
}
```

ans: 34

662.
```
main()
{
int i,j=9999;
char buff[5];
i=sprintf(buff,"%d",j);
printf("%d %s",i,buff);
}
```

ans: 4 9999

663.
```
main()
{
int i,j=99999;
```

```
        char buff[5];
        i=sprintf(buff,"%d",j);
        printf("%d %s",i,buff);
        }
```

ans: 6 -31073

664.
```
main()
        {
        int I=2;
        int j=3;
        int k=4;
        printf("%d",(I<j<k));
        }
```

ans: 1

665.
```
#define macro(a) ((a++) + (++a) + (a++))
main()
        {
        printf("%d",macro(1));
        }
```

ans: error (lvalue required)

666.
```
int func(int I)
        {
        static int k=0;
        k++;
        if(k>5)
        return 1;
        else
        return func(I-1);
        }

int main()
        {
        printf("%d",func(1));
        }
```

ans: 1

667.
```
main()
        {
        char *str="quark" "media";
        printf("%s",str);
        }
```

ans: quarkmedia

668.
```
main()
```

```
        {
        char *str;
        str="hello"   "india";
        printf("%s",str);
        }
```

ans: helloindia

669.
```
main()
        {
        int i=0,z;
        z=sizeof(++i + i++);
        printf("%d %d",z,i);
        }
```

ans: 2 0 (the operand of a sizeof operator is either an expression, which is not evaluated, or a parenthesized type name)

670.
```
main()
        {
        int y=10;
        for (int x=0;x<=10;x++);
        y+=x;
        printf("%d",y);
        }
```

ans: error (x should be declared before for loop)

671.
```
main()
        {
        int y=10,x;
        for (x=0;x<=10;x++);
        y+=x;
        printf("%d",y);
        }
```

ans: 21

672.
```
fun(int a)
{
static int b;
}
```
what is the storage allocation for both a and b?

ans: a-stack, b-bss (block starting with symbol)

673.
```
int *fun(int a)
        {
        return (&a);
        }
```

```
int *fun(int a)
      {
      int *b;
      b=&a;
      return(b);
      }
int *fun(int a )
      {
      int *b;
      b=malloc(sizeof(int));
      b=&a;
      return (b);
      }
```

which of the following functions are not correct?

ans: 1 & 2 are not correct

674.
```
int fun(int a,int y)
      {
      int x;
      x=a+y;
      return (x);
      }
int main()
      {
      int x,y=1,z=0,c;
      z=fun(y,c);
      printf(" %d ",x);
      }
```

ans: garbage value

675.
```
main()
      {
      int i;
      printf("%d",++i++);
      }
```

ans: error (lvalue required)

676.
```
main()
      {
      int a=2;
      printf("%d %d %d",++a,a++);
      }
```

ans: 4 2 garbage value

677.
```
struct abc
      {
      char a[10];
```

```
      int a,b;
      };
main()
      {
      struct abc ab={"main"};
      printf("%d %d",ab.a,ab.c);
      }
```

ans: error (multiple declaration of a and undefined symbol c)

678.
```
void main()
      {
      printf("persistent");
      main();
      }
```

ans: till stack overflows

679.
```
func(char *s1,char * s2)
      {
      char *t;
      t=s1;
      s1=s2;
      s2=t;
      }
void main()
      {
      char *s1="jack", *s2="jill";
      func(s1,s2);
      printf("%s %s",s1,s2);
      }
```

ans: jack jill

680.
```
func(char *s1,char * s2)
      {
      char *t;
      printf("%s %s ",s1,s2);
      t=s1;
      s1=s2;
      s2=t;
      printf("%s %s ",s1,s2);
      }
void main()
      {
      char *s1="jack", *s2="jill";
      func(s1,s2);
      printf("%s %s",s1,s2);
      }
```

ans: jack jill jill jack jack jill

681.
```
void main()
      {
      int a[5] ={1,2,3,4,5},i,j=2;
      for (i =0;i<5;i++ )
      func(j,&a[i]);
      for (i =0;i<5;i++ )
      printf("%d ",a[i]);
      }
func(int j,int *a)
      {
      j=j+1;
      a=a+j;
      }
```

ans: 1 2 3 4 5

682.
```
void main()
      {
      int a[5] ={1,2,3,4,5},i,j=2;
      for (i =0;i<5;i++ )
      func(j,a[i]);
      for (i =0;i<5;i++ )
      printf("%d ",a[i]);
      }
func(int j,int *a)
      {
      j=j+1;
      a=a+j;
      }
```

ans: 1 2 3 4 5

683.
```
main()
      {
      for (a=1;a<=100;a++)
      for(b=a;b<=100;b++)
      foo();
      }
      foo()
      {}
      how many times foo will be called?
```

ans: 5050

684.
```
int i;
main()
      {
      int a,b;
      for (a=1;a<=100;a++)
```

```
      for(b=a;b<=100;b++)
      foo();
      printf("%d",i);
      }
foo()
      {
      i++;
      }
```

ans: 5050

685. One palindrome programme was given in recursion

ans : pal(f++,t--)

686.
```
main()
      {
      int i=foo(2);
      printf("%d",i);
      }
foo(int s)
      {
      if(!s)
      return s;
      else
      {
      int i=5;
      return i;
      }
      }
```

ans: 5

687.
```
main()
      {
      int k=0,i=0,j=1;
      if(!0&&(k=2)) printf("%d ",k);
      if(!0||(k=0))
      printf("%d",k);
      }
```

ans: 2 2

688.
```
main()
      {
      int k=0,i=0,j=1;
      if(!0&&k=2) printf("%d ",k);
      if(!0||k=0)
      printf("%d",k);
      }
```

ans: error (lvalue required)

689.
```
main()
{
int i;
for(i=0;i<3;i++)
switch(i)
{
case 1: printf("%d",i);
case 2 : printf("%d",i);
default: printf("%d",i);
}
}
```

ans: 011122

690.
```
int *num={10,1,5,22,90};
main()
{
int *p,*q;
int i;
p=num;
q=num+2;
i=*p++;
printf("%d %d",i,q-p);
}
```

ans: error (declaration error)

691.
```
int num[]={10,1,5,22,90};
main()
{
int *p,*q;
int i;
p=num;
q=num+2;
i=*p++;
printf("%d %d",i,q-p);
}
```

ans: 10 1

692. **int *(*p[10])(char *, char*)**

ans: array of pointers to function with two character pointers as arguments and returning interger pointer

693.
```
main()
{
char *a[4]={"jaya","mahe","chandra","buchi"};
```

```
      printf("%d %d %d",sizeof(a),sizeof(char
*),sizeof(a)/sizeof(char *));
      }
```

ans: 16 4 4

694.
```
void fn(int *a, int *b)
      {
      int *t;
      t=a;
      a=b;
      b=t;
      }

main()
      {int a=2;
      int b=3;
      fn(&a,&b);
      printf("%d,%d", a,b);
      }
```

ans: 2,3

695.
```
#define scanf "%s is a string"
main()
      {
      printf(scanf,scanf);
      }
```

ans: %s is a string is a string

696.
```
main()
      {
      char *p="abc";
      char *q="abc123";
      while(*p=*q)
      printf("%c%c",*p,*q);
      }
```

ans: prints a infinite times

697.
```
main()
      {
      printf("%u",-1);
      }
```

ans: 65535

698.
```
#define void int
int i=300;
void main(void)
```

```
        {
        int i=200;
        {
        int i=100;
        printf("%d ",i);
        }
        printf("%d",i);
        }
```

ans: error (parameter 1 missing name)

699.
```
#define void int
int i=300;
void main(void argc)
        {
        int i=200;
        {
        int i=100;
        printf("%d ",i);
        }
        printf("%d",i);
        }
```

ans: 100 200

700.
```
main()
        {
        int x=2;
        x<<2;
        printf("%d ",x);
        }
```

ans: 2

701.
```
main()
        {
        int x=2;
        x=x<<2;
        printf("%d ",x);
        }
```

ans: 8

702.
```
main()
        {
        int a[]={0,0X4,4,9};
        int i=2;
        printf("%d %d",a[i],i[a]);
        }
```

ans: 4 4

703.
```
main()
      {
      int i=2+3,4>3,2;
      printf("%d",i);
      }
```

ans: error

704.
```
main()
      {
      int i=(2+3,4>3,2);
      printf("%d",i);
      }
```

ans: 2

705.
```
main()
      {
      int a=0,b=0;
      if(!a)
      {
      b=!a;
      if(b)
      a=!b;
      }
      printf("%d %d",a,b);
      }
```

ans: 0 1

706.
```
main()
      {
      int I=10;
      I=I++ + ++I;
      printf("%d",I);
      }
```

ans: 23

707.
```
swap(int x,y)
      {
      int temp;
      temp=x;
      x=y;
      y=temp;
      }

main()
      {
      int x=2,y=3;
```

```
        swap(x,y);
        printf("%d %d",x,y);
        }
```

ans: error (swap function formal arguments declaration)

708.
```
swap(int x, int y)
        {
        int temp;
        temp=x;
        x=y;
        y=temp;
        }

    main()
        {
        int x=2,y=3;
        swap(x,y);
        printf("%d %d",x,y);
        }
```

ans: 2 3

709.
```
struct
{
int x;
int y;
}abc;
```

x cannot be accessed by the following

```
1)abc-->x;
2)abc[0]-->x;
3)abc.x;
4)(abc)-->x;
```

ans: 1 2 &4

710. Automatic variables are destroyed after fn. ends because

a) Stored in swap
b) Stored in stack and poped out after fn. returns
c) Stored in data area
d) Stored in disk

ans: b

711.
```
main()
        {
        int x=2,y=6,z=6;
        x=y==z;
```

```
        printf("%d",x);
        }
```

ans: 1

712. i) int *F()
ii) int (*F)()

ans: The first declaraion is a function returning a pointer to an integer and the second is a pointer to a function returning int.

713.
```
#define dprintf(expr) printf(#expr "=%d\n",expr)
main()
        {
        int x=7;
        int y=3;
        dprintf(x/y);
        }
```

ans: x/y=2

714.
```
main()
        {
        int i;
        char *p;
        i=0X89;
        p=(char *)i;
        p++;
        printf("%x %x\n",i,p);
        }
```

ans: 89 8a

715.
```
main()
        {
        int i;
        char *p;
        i=0X89;
        p=(char *)i;
        p++;
        printf("%x %x\n",p,i);
        }
```

ans: 8a 0

716. The type of the controlling expression of a switch statement cannot be of the type

a) int b) char c) short d)float e) none

ans: d)float

717.
```
main()
{
int X,b;
b=7;
X = b>8 ? b <<3 : b>4 ? b>>1:b;
printf("%d",X);
}
```

ans: 3

718.
```
main()
{
int n=2;
printf("%d %d\n", ++n, n*n);
}
```

ans: 3 4

719.
```
int x= 0x65;
main()
{
char x;
printf("%d\n",x);
}
```

ans: unknown

720.
```
main()
{
int a=10;
int b=6;
if(a=3)
b++;
printf("%d %d\n",a,b++);
}
```

ans: 3 7

721.
```
main()
{
enum Months {JAN =1,FEB,MAR,APR};
Months X = JAN;
if(X==1)
{
printf("Jan is the first month");
}
}
```

ans: error

722.
```
main()
      {
      enum Months {JAN =1,FEB,MAR,APR};
      enum Months X = JAN;
      if(X==1)
      {
      printf("Jan is the first month");
      }
      }
```

ans: Jan is the first month

723.
```
main()
      {
      int l=6;
      switch(l)
      {
      default : l+=2;
      case 4: l=4;
      case 5: l++;
      break;
      }
      printf("%d",l);
      }
```

ans: 5

724.
```
main()
      {
      int x=20;
      int y=10;
      swap(x,y);
      printf("%d %d",y,x+2);
      }
swap(int x,int y)
      {
      int temp;
      temp =x;
      x=y;
      y=temp;
      }
```

ans: 10 22

725.
```
#define INC(X) X++
main()
      {
      int X=4;
      printf("%d",INC(X++));
      }
```

ans: error (lvalue required)

726.
```
main()
      {
      char s[]="Hello, world";
      printf("%15.10s",s);
      }
```

ans: Hello, wor

727.
```
main()
      {
      printf("%d\n",f(7));
      }
f(x)
      {
      if(x<=4)
      return x;
      return f(--x);
      }
```

ans: 4

728.
```
main()
      {
      int x=0 ,*p=0;
      x++;p++;
      printf("%d and %d\n",p);
      }
```

ans: 2 and 0

729.
```
main()
      {
      int i=20,*j=&i;
      f1(j);
      *j+=10;
      f2(j);
      printf("%d and %d",i,*j);
      }
f1(k)
int *k;
      { *k+=15;}
f2(x)
int *x;
      { int m=*x, *n=&m;
      *n+=10;
      }
```

ans: 45 and 45

730.
```
func(int x)
      {
      if(x<=0)
      return (1);
      return func(x-1)+x;
      }
main()
      {
      printf("%d",func(5));
      }
```

ans: 16

731.
```
void funca(int *k)
      {
      *k+=20;
      }
void funcb(int *k)
      {
      int m=*k,*n=&m;
      *n+=10;
      }
main()
      {
      int var=25;
      int *varp=&var;
      funca(varp);
      *varp+=10;
      funcb(varp);
      printf("%d %d",var,*varp);
      }
```

ans: 55 55

732.
```
main()
      {
      int x=0,*p=0;
      x++; p++;
      printf ("%d and %d\n",x,p);
      }
```

ans: 1 and 2

733.
```
main()
      {
      int Y=10;
      if( Y++>9 && Y++!=10 && Y++>10)
      printf("%d",Y);
      else
      printf(".......");
```

```
        }
```

ans: 13

734.

```
int i=10;
main()
        {
        int i=20,n;
        for(n=0;n<=i;n++)
        {
        int i=10;
        i++;
        }
        printf("%d", i);
        }
```

ans: 20

735.

```
main()
        {
        int i=20,j,k=0;
        for(j=1;j<i;j=1+4*(i/j))
        {
        k+=j<10?4:3;
        }
        printf("%d", k);
        }
```

ans: 4

736.

```
main()
        {
        int i=10;
        printf("%d %d %d",i++,i++,i--);
        }
```

ans: 10 9 10

737.

```
main()
        {
        int i=10;
        if(1,i++,++i)
        printf("The value for i is %d",i);
        }
```

ans: The value for i is 12

738.

```
main()
        {
        int a=10,b=33;
```

```
        a=a^b;
        b=a^b;
        a=a^b;
        printf("%d %d", a,b);
        }
```

ans: 33 10

739.
```
main()
        {
        int *a;
        int (*b)();
        printf("%d %d",sizeof(a),sizeof(b));
        }
```

ans: 4 4

740.
```
main()
        {
        int i;
        char *p;
        i=0X89;
        p=(char *)i;
        p++;
        printf("%x\n",p);
        }
```

ans: 8a

741.
```
main()
        {
        int x=0,*p=0;
        x++; p++;
        printf ("%d and %d\n",x,p);
        }
```

ans: 1 and 2

742.
```
#define val 1+2
main()
        {
        printf("%d %d",val/val,val^3);
        }
```

ans: 5 0

743.
```
#define "this" "#"
#define (x,y) x##y
main()
        {
        printf("this","this is");
```

```
}
```

ans: error (define directive needs an identifier)

744.
```
main()
{
int a ,b=7;
a=b<4?b<<1:b=4?71:a;
printf("%d",a);
}
```

ans: error (lvalue required)

745.
```
main()
{
int a ,b=7;
a=b<4?b<<1:(b=4?71:a);
printf("%d",a);
}
```

ans: 71

746.
```
main()
{
int a,b;
a=(10.15);
b=10,15;
printf("%d %d",a,b);
}
```

ans: 10 10 (‘a’ value is truncated, no effect of comma operator, it is just assignment)

747.
```
main()
{
int a,b;
a=(10.15);
b=(10,15);
printf("%d %d",a,b);
}
```

ans: 10 15 (‘a’ value is truncated and effect of comma operator)

748.
```
main()
{
int a,b;
a=(10,15);
b=10,15;
printf("%d %d",a,b);
}
```

ans: 15 10

749.
```
#define VALUE 1+2
main()
      {
      printf("%d and %d\n",VALUE/VALUE,VALUE*3);
      }
```

ans: 5 and 7

750. which of the following is not basic data type

ans: char * (pointers derived data types)

751. the declaration of the variable does not result in one of the following

ans: allocation of the storage space for the varable.

752. 2 variables cannot have the same name if they are

ans: in the same block.

753. Which of the following is the correct code for strcpy, that is used to copy the contents from src to dest?

a)
```
strcpy (char *dst,char *src)
      {
      while (*src)
      *dst++ = *src++;
      }
```
b)
```
strcpy (char *dst,char *src)
      {
      while(*dst++ = *src++);
      }
```
c)
```
strcpy (char *dst,char *src)
      {
      while(*src)
      { *dst = *src;
      dst++; src++;
      }
      }
```
d)
```
strcpy(char *dst, char *src)
      {
      while(*++dst = *++src);
      }
```

ans: b (‘a’-null character not assigned ‘c’-null character not assigned ‘d’-first character is skipped)

754.
```
main()
{
int X,b=7;
X = b>8 ? b <<3 : b>4 ? b>>1:b;
printf("%d",X);
}
```

ans: 3

755.
```
main()
{
char *src = "Hello World";
char *dst;
dst = (char *)malloc(20);
while(*dst = *src){dst++;src++;}
printf("%s",dst);
getch();
}
```

ans: no output

756.
```
main()
{
char *src = "Hello World";
char *dst;
dst = (char *)malloc(20);
while(*dst++ = *src++);
printf("%s",dst);
getch();
}
```

ans: garbage characters (dst is pointing to the character next to the null character)

757.
```
main()
{
char *src = "Hello World";
char *dst;
while(*dst++ = *src++);
printf("%s",dst);
getch();
}
```

ans: error (use of dst before definition. Assign some address to dst)

758.
```
main()
{
char *src = "Hello World";
char dst[20];
while(*dst++ = *src++);
```

```
        printf("%s",dst);
        getch();
        }
```

ans: error (lvalue required)

759.
```
int main()
        {
        for(;;);
        printf("Hello\n");
        return 0;
        }
```

ans: Runs in an infinite loop without printing anything.

760.
```
FUNC (int *p)
        {
        p = (int *)malloc(100);
        printf("p:%x ",p);
        }

int main()
        {
        int *ptr;
        FUNC(ptr);
        printf("Ptr:%x",ptr);
        return 0;
        }
```

ans: Both print different values (p:882 Ptr:1097)

761.
```
int main()
        {
        char a[] = "world";
        printf("%d %d\n",strlen(a),sizeof(a));
        return 0;
        }
```

ans: 5 6

762.
```
main()
        {
        char *s = "Hello";
        printf("%s",1(s));
        }
```

ans: error (call of nonfunction)

763.
```
main()
        {
        char *s = "Hello";
```

```
        printf("%s",1[s]);
        }
```

ans: error (it has to print from memory location 9b i.e. 'e')

764.
```
main()
        {
        char *s = "Hello";
        printf("%s",&1[s]);
        }
```

ans: ello

765. **char (* (f ()) [])()**

ans: f is a function returning pointer to array[] of pointer to function returning char.

766.
```
main()
        {
        int i;
        i=(2,3);
        printf("%d",i);
        }
```

ans: 3

767.
```
main()
        {
        char str[]="GESL";
        printf("%d %d",sizeof(str),strlen(str));
        }
```

ans: 5 4

768.
```
main()
        {
        int i;
        for(i=0;i++;i<100)
        printf("hello world\n");
        }
```

ans: no output (for loop condition fails)

769.
```
main()
        {
        char i;
        for(i=1;i++;i<100)
        printf("hello world %d\n",i);
        }
```

ans: hello world 1…….hello world 127……hello world -128…..hello world -1…..hello world 0

770.
```
main()
{
int i;
for(i=1;i++;i<100)
printf("hello world %d\n",i);
}
```

ans: hello world 1…….hello world 32767……hello world -32768....hello world -1…..hello world 0

771.
```
main()
{
char c;
scanf("%s",c);
}
```

ans: it asks for a character when you type a character it will give error because 99 memory location i.e., 'c' (which is protected memory and not accessible) is used to store typed character.

772.
```
main()
{
int k=5;
for(++k<5 && k++/5 || ++k<8);
printf("%d\n",k);
}
```

ans: error (for loop syntax error)

773.
```
main()
{
int k=5;
if(++k<5 && k++/5 || ++k<8);
printf("%d\n",k);
}
```

ans: 7

774.
```
main()
{
int k=5;
if(++k<5 && k++/5 && ++k<8);
printf("%d\n",k);
}
```

ans: 6

775.
```
main()
      {
      int k=5;
      if(++k<5 || k++/5 && ++k<8);
      printf("%d\n",k);
      }
```

ans: 8

776.
```
main()
      {
      int k=5;
      if(++k<5 || k++/5 || ++k<8);
      printf("%d\n",k);
      }
```

ans: 7

777.
```
int *func(int a, int b, int *c)
      {
      int x=a+b;
      *c=a-b;
      return(&x);
      }
main()
      {
      int *ptr1,*ptr2;
      ptr1=(int *)malloc(sizeof(int));
      ptr2=func(20,10,ptr1);
      printf("%d %d\n",*ptr1,*ptr2);
      }
```

ans: bug in the code (we are returning address of a auto variable whose scope is lost after function returns)

778.
```
int *func(int a, int b, int *c)
      {
      static int x=a+b;
      *c=a-b;
      return(&x);
      }
main()
      {
      int *ptr1,*ptr2;
      ptr1=(int *)malloc(sizeof(int));
      ptr2=func(20,10,ptr1);
      printf("%d %d\n",*ptr1,*ptr2);
      }
```

ans: error (illegal initialization of x. since x is a static variable it should be initialized with constant expression)

779.
```
int *func(int a, int b, int *c)
      {
      static int x;
      x=a+b;
      *c=a-b;
      return(&x);
      }
main()
      {
      int *ptr1,*ptr2;
      ptr1=(int *)malloc(sizeof(int));
      ptr2=func(20,10,ptr1);
      printf("%d %d\n",*ptr1,*ptr2);
      }
```

ans: 10 30

780.
```
int main()
      {
      int i=10,j;
      if((j=~i)<i)
      printf ( "True" ) ;
      else
      printf ( "False" ) ;
      }
```

ans: True

781.
```
int main()
      {
      int i=10,j;
      if((j=~i)<i)
      printf ( "True" ) ;
      else
      printf ( "False" ) ;
      }
```

ans: Flase

782.
```
int main()
      {
      unsigned int i=-10,j=10;
      if(j<i)
      printf ( "True " ) ;
      else
      printf ( "False " ) ;
      printf("%d %u",i,i);
```

```
        }
```

ans: True -10 65526

783.
```
main()
        {
        FILE *fp;
        printf("%d\n",sizeof(fp));
        }
```

ans: 4 (pointer takes 4 bytes)

784.
```
main()
        {
        int a=10,b=20;
        a^=b^=a^=b;
        printf("%d %d\n",a,b);
        }
```

ans: 20 10

785.
```
main()
        {
        int a=10,20;
        int b;
        a^=b^=a^=b;
        printf("%d %d\n",a,b);
        }
```

ans: error (declaration error)

786.
```
main()
        {
        int a,b;
        a=(10,15);
        b=10,15;
        printf("%d %d",a,b);
        }
```

ans: 15 10

787.
```
main()
        {
        int i=10;
        switch(i)
        {
        case 10: printf("Hello ");
        {
        case 1 : printf("World ");
        }
        case 5: printf("Hello World ");
```

```
}
}
```

ans: Hello World Hello World

788.
```
main()
{
char str1[]="Hello";
char str2[]="Hello";
if ( str1==str2 )
printf("True\n");
else
printf("False\n");
}
```

ans: False

789.
```
main()
{
# include <stdio.h>
int i = 10 ;
printf("%d\n", i/2 );
}
```

ans: 5

790.
```
#pragma pack(2)
struct SIZE
{
int i;
char ch ;
double db ;
};
main()
{
printf("%d\n",sizeof(struct SIZE));
}
```

ans: 12 (actually it takes 11 bytes since packing is there it takes 12 bytes)

791.
```
main()
{
int arr[]={ 1,2,3,4 };
int *ptr ;;;;
ptr++ = arr;
printf("%d,%d",ptr[2],arr[2]);
return 0;
}
```

ans: error (lvalue required)

792.
```
main()
{
char s[10];
scanf ("%s",s);
printf(s);
}
```
what is the output if input is abcd

ans: abcd

793.
```
main()
{
char c = 255;
printf ("%d",c);
return 0;
}
```

ans: -1

794.
```
main()
{
int i;
for (i=7;i<=0;i--)
printf ("hello\n");
}
```

ans: no output (for loop codition fails on first iteration)

795.
```
main()
{
printf( printf ("world") );
}
```

ans: error (printf(5) gives error. Since memory location 5 is not accessible)

796.
```
main()
{
scanf("%d");
printf();
}
```

ans: error (too few parameters in call to printf)

797.
```
main()
{
scanf("%d");
printf("manu");
}
```

ans: manu (whatever you type for scanf output will be manu)

798.
```
#define islower(c) ('a'<=(c) && (c)<='z')
#define toupper(c) (islower(c)?(c)-('a'-'A'):(c))
main()
      {
      char *p="i am fine";
      while(*p)
      printf("%c",toupper(*p++));
      }
```

ans: AFE (macro substitution 3 times)

799.
```
main()
      {
      200;
      printf("tricky problem");
      }
```

ans: tricky problem

800. which is the null statement?
a) ;
b) {}
c) '\0';
d)all of these

ans: a)

801. what is the correct prototype of printf function ?
a)printf(char *p,...);
b)printf(const *char *p,...);
c)printf(const char *p,...);
d)printf(const *char p,...);

ans: c)

802. For a linked list implementation which searching technique is not
applicable?
a)linear search
b)none
c)quick sort
d)binary search

ans: d)

803. what is big-endian.
a) MSB at lower address LSB at higher address

b) LSB at lower address MSB at higher address
c) memory mgmt technique
d) none of the above

ans: a)

804. what is Little-endian.
a) MSB at lower address LSB at higher address
b) LSB at lower address MSB at higher address
c) memory mgmt technique
d) none of the above

ans: b)

805. what is the scheduling algorithm used in general operating systems.
a) FCFS algorithm
b) Highest Priority First algorithm
c) Round-Robin algorithm
d) None of the above

ans: c)

806.
```
void main()
{
char *mess[]={"Have","a","nice","day","Bye"};
printf("%d  %d",sizeof(mess),sizeof(mess[1]));
}
```

ans: 20 4 (mess is an array of 5 pointers and mess[1] is pointer. Here pointer takes 4 bytes)

807.
```
void main()
{
int i,count=0;
char *p1="abcdefghij";
char *p2="alcmenfoip";
for(i=0;i<=strlen(p1);i++)
{
if(*p1++ == *p2++)
count+=5;
else
count-=3;
}
printf("count=%d\n",count);
}
```

ans: count=6

808. what does main return on successful execution?
a. 1

b. 0
c. -1
d.Nonzero

ans: b

809. main(int argc,char *argv[])
{
printf((argc > 1 ? "%c" : "%c",*++argv);
}
If the i/p string is "GESL Bangalore".

ans: B (check it out)

810. How do u declare a pointer to an array of pointers to int?
a. int *a[5];
b. int **a[5];
c. int *(*a)[5];
d. u con not declare

ans: c

811. main()
{
int a;
char *p;
a = sizeof(int) * p;
printf("%d\n",a);
}

ans: illegal use of pointer (pointer multiplication is invalid)

812. #define SIZE sizeof(int)
main()
{
int i=-1;
if(i < SIZE)
printf("True\n");
else
printf("False\n");
}

ans: True

813. **int (*fun())[]**

ans: function returning a pointer to an array of integers

814. main()

```
        {
        int a=8,d;
        int *p;
        p=&a;
        d=a/*p;
        printf("%d\n",d);
        }
```

ans: error (there should be space between / and *)

815.
```
main()
        {
        int a=8,d;
        int *p;
        p=&a;
        d=a/ *p;
        printf("%d\n",d);
        }
```

ans: 1

816.
```
main()
        {
        char *a="Hello";
        a++ = 'h';
        printf("%s\n",a);
        }
```

ans: error (lvalue required. Both assignment and increment is on a)

817.
```
main()
        {
        char *a="Hello";
        *a++ = 'h';
        printf("%s\n",a);
        }
```

ans: ello (here assignment is to *a and increment is on a)

818.
```
main()
        {
        char p[]="Hello";
        p[0]='h';
        printf("%s\n", p);
        }
```

ans: hello

819.
```
#define mysizeof(a) (&a+1) - &a
```

```
main()
      {
      float d;
      printf("%d ", &d);
      printf("%d ", &d+1);
      printf("%d ",mysizeof(d));
      printf("%d",&d+1-&d);
      }
```

ans: 9216 9220 1 1

820.
```
main()
      {
      int *p=10;
      printf("%d\n",*p);
      }
```

ans: error (value at memory location 10 which is not accessible)

821.
```
main()
      {
      int *p=10;
      printf("%d\n",p);
      }
```

ans: 10

822.
```
main()
      {
      int i=-1;
      i<<=2;
      printf("%d\n",i);
      }
```

ans: -4

823.
```
main()
      {
      int i= 0xffffffff;
      printf("%d\n",i);
      }
```

ans: -1

824.
```
main()
      {
      int A=1,B=2;
      if(A==B < printf("Hello "))
      printf("world\n");
      else
```

```
      printf("Bangalore\n");
      }
```

ans: Hello world (< has highest priority than ==)

825.
```
main()
      {
      int i;
      for(i=0; i< 10; i++)
      {
      int j=10;
      j++;
      printf("j= %d\n", j);
      }
      }
```

ans: j= 11 will be printed 10 times

826.
```
union test
      {
      int a;
      union test *p;
      };
main()
      {
      union test q;
      printf(" a= %d\n ", q.a);
      }
```

ans: a= garbage value

827.
```
register int a,b;
main()
      {
      for(a=0 ; a<5 ; a++)
      b++;
      }
```

ans: error (storage class ‘register’ is not allowed here)

828.
```
#define dprint(expr) printf(" expr= %d \n ", expr)
main()
      {
      int i=10,j=2;
      dprint(i/j);
      }
```

ans: expr= 5

829.
```
main()
```

```
        {
        int *p ;
        p=(int *)malloc(-10);
        printf("%d",p);
        free(p);
        }
```

ans: 0 (no space is allocated for p. p is a null pointer)

830.
```
main()
        {
        int *p ;
        p=(int *)malloc(10);
        printf("%d",p);
        free(p);
        }
```

ans: 2266 (starting address of the allocated block)

831.
```
main()
        {
        for(printf("a");printf("b");printf("c"));
        }
```

ans: abcbcbcbcbcb……. Infinite loop

832.
```
fun()
        {
        return 10 ;
        }
main()
        {
        int i= 10 * fun() ;
        printf("%d",i);
        }
```

ans: 100

833.
```
fun()
        {
        return 10 ;
        }
int i= 10 * fun() ;
main()
        {
        printf("%d",i) ;
        }
```

ans: illegal initialization error (static and global variables should be initialized with constant or constant expression)

834.
```
main()
      {
      int i=100 ;
      printf("%d ", sizeof(i++));
      printf("%d ",i) ;
      }
```

ans: 2 100 (sizeof operator operand will not be evaluated)

835.
```
main()
      {
      int i=100 ;
      printf("%d ", sizeof(++i);
      printf("%d ",i) ;
      }
```

ans: 2 100 (sizeof operator operand will not be evaluated)

836.
```
main()
      {
      int i=100 ;
      printf("%d ", sizeof(++i++));
      printf("%d ",i) ;
      }
```

ans: error (lvalue required and not allowed type for sizeof operator)

837. Which one of the following data structures is best suited for searching ?

a) Arrays
b) Singly Linked List
c) Doubly Linked List
d) Hash Table

ans: d)

838. Which of the following data structures is best suited for Deletion ?

a) Arrays
b) Singly Linked List
c) Doubly Linked List
d) Hash Table

ans: c)

839. Which one of these is not a scheduling technique in Operating System?

a) Last-Come-First-Serve Scheduling
b) First-Come-First-Serve Scheduling
c) Preemptive Scheduling
d) Round Robin Scheduling

ans: a)

840. "Banker's Algorithm" is used for :

a) Deadlock Detection
b) Deadlock Avoidance
c) Deadlock Prevention
d) All of the above

ans: b)

841.
```
main()
{
int a = 1;
#define p a
printf("%d %d ",a++,p++);
}
```

ans: 2 1

842.
```
main()
{
#include<stdio.h>
int a = 90 ;
printf("%d",a) ;
}
```

ans: 90

843.
```
main()
{
main() ;
}
```

ans: executes until the stack overflows

844.
```
#define max "hello"
main()
{
printf(max);
```

```
        }
```

ans: hello

845.
```
#define max main()
main()
        {
        max;
        printf("hello wolrd\n ");
        }
```

ans: executes until the stack overflows

846.
```
typedef int *p ;
main()
        {
        int a = 90 ;
        p p1 ;
        p1 = &a ;
        printf("%d",*p1) ;
        }
```

ans: 90

847.
```
main()
        {
        int i=1 ;
        printf(i ?"one" : "zero") ;
        }
```

ans: one

848.
```
main()
        {
        int i=1;
        printf("%d",i ? 1 : 0) ;
        }
```

ans: 1

849.
```
main()
        {
        int a=90,b=100;
        a++;
        a=(a ^ b) ^ (a = b );
        b = a^b^a ;
        --a ;
        printf("%d %d",a++,b++) ;
        }
```

ans: 90 100

850.
```
main()
      {
      int a = 10 , b = 100 ;
      swap(&a , &b) ;
      printf("%d %d",a,b) ;
      }
swap(int *a , int *b)
      {
      *a = *a + *b ;
      *b = *a - *b ;
      *a = *a - *b ;
      swap1(&a , &b) ;
      }
swap1(int **a , int **b)
      {
      **a = **a + **b ;
      **b = **a - **b ;
      **a = **a - **b ;
      }
```

ans: 10 100

851.
```
main()
      {
      void *ptr ;
      int a = 10 ;
      ptr = &a ;
      printf("%d",*ptr) ;
      }
```

ans: error (indirection operator * should not be applied on void pointer. Since compiler does not know the size of the operand which void pointer is pointing to)

852.
```
main()
      {
      void *ptr ;
      int a = 90 ;
      char *ptr1 = "hello" ;
      ptr = a ;
      ptr = ptr1 ;
      }
```

ans: executes without any error

853.
```
main()
      {
      char *p = "helloo" ;
      char *p1 = "strcat" ;
      while((*(p++) = *(p1++)) != '\0')
```

```
      {
      ;
      }
      }
```

ans: contents are copied

854.
```
int g = 10 ;
main()
      {
      int g = 10 ;
      printf("%d",g) ;
      }
      int g ;
```

ans: 10

855.
```
int g = 10 ;
main()
      {
      extern int g;
      printf("%d",g) ;
      }
      int g ;
```

ans: 10

856.
```
//int g = 10 ;
main()
      {
      extern int g;
      printf("%d",g) ;
      }
      int g ;
```

ans: 0

857.
```
main()
      {
      int a = 1 ;
      int b = 0 ;
      a = a++ + --b * a++ ;
      printf("%d",a) ;
      }
```

ans: 2

858.
```
struct s
      {
      int si;
      union u
```

```
      {
      float uf;
      char uc;
      };
      };
main()
      {
      printf("%d",sizeof(struct s));
      }
```

ans: declaration terminated incorrectly

859.
```
struct s
      {
      int si;
      union u
      {
      float uf;
      char uc;
      }a;
      };
main()
      {
      printf("%d",sizeof(struct s));
      }
```

ans: 6

860.
```
struct st
      {
      int a;
      char b;
      }
main()
      {
      }
```

ans: struct st is return type of main (since statement termination is not there for struct template)

861.
```
typedef struct info
      {
      int i;
      char b;
      }node;
main()
      {
      struct info node1;
      node1.i=55;
      printf("%d",node1.i);
      }
```

ans: 55 (node is different from node1)

862.
```
struct a
      {
      int i;
      int display()
      {
      printf("hello world\n");
      }
      };
main()
      {
      strcut a vara;
      vara.display();
      }
```

ans: functions may not be a part of a struct or union

863.
```
struct a
      {
      int (*ptr)();
      };
      int display()
      {
      printf("Global Edge\n");
      }
main()
      {
      struct a structa;
      structa.ptr=display;
      structa.ptr();
      }
```

ans: Global Edge (through function pointers functions can be implemented in structures)

864.
```
typedef int *ABC;
typedef ABC XYZ[10];
int main()
      {
      XYZ var;
      }
      1. var is an array of integer pointers.
      2. var is a pointer to an integer array.
```

ans: only 2 is correct

865.
```
union tag
      {
      int a;
```

```
        char x;
        char y;
        }name;
    int main()
        {
        name.a=258;
        printf("\n x = %d y = %d ",name.x,name.y);
        }
```

ans: x = 2 y = 2

866.
```
    int main()
        {
        int a[20];
        int *p,*q,val;
        p = &a[0];
        q = &a[10];
        val = q - p;
        printf("p %d ",p);
        printf("q %d ",q);
        printf("val %d",val);
        }
```

ans: p 8640 q 8660 val 10

867.
```
    struct key
        {
        char *word[2];
        int count;
        char c;
        }abc;

    int main()
        {
        printf("\nsize %d",sizeof(abc));
        }
```

ans: size 11 (pointer takes 4 bytes)

868.
```
    main()
        {
        int a;
        fun();
        printf("%d",a);
        a=50;
        }
    fun()
        {
        int i;
        *(&i+4) = 100;
        }
```

ans: error (&i+4 memory location is not allocated and we are trying to assign a value to this memory location)

869.
```
main()
{
#define x 5
int b;
b = x;
printf("%d",b);
}
```

ans: 5

870.
```
main()
{
int a; #define y 10
a=y;
printf("%d",a);
}
```

ans: #define (should come at the beginning of the block)

871.
```
#define s -50
main()
{
int s;
#ifdef s
printf("Hell\n");
#else
printf("Heaven\n");
#endif
}
```

ans: error (declaration terminated incorrectly i.e int -50;)

872.
```
#define s -50
main()
{
int a;
#ifdef s
printf("Hell\n");
#else
printf("Heaven\n");
#endif
}
```

ans: Hell

873. How many times can a comment be nested ?

A)COMMENT_NEST_LIMIT times
B)COMMENT_LIMIT times
C)ONE time
D)Not even Once

ans: D)

874.
```
main()
      {
      int i,j;
      i = 06;
      j = 09;
      printf ("%d %d\n",i,j);
      }
```

ans: error (illegal octal digit. 9 is not there in octal system)

875.
```
main()
      {
      int i,j;
      i = o6;
      j = 09;
      printf ("%d %d\n",i,j);
      }
```

ans: error (illegal octal digit. 9 is not there in octal system. Octal number starts with 0,zero not with letter o)

876.
```
# undef __FILE__
# define __FILE__ "GLOBALEDGE"
main()
      {
      printf("%s\n",__FILE__);
      }
```

ans: Bad undef directive syntax

877.
```
# define LINE
# define NAME "GESL"
main()
      {
      printf("%d %s\n",LINE,NAME);
      }
```

ans: error (LINE is not defined)

878.
```
# define LINE 1
# define NAME "GESL"
```

```
main()
      {
      printf("%d %s\n",LINE,NAME);
      }
```

ans: 1 GESL

879.
```
main()
      {
      int i=10;
      float j=2.5;
      printf("%d ",sizeof(j+++i++));
      printf("%d %f",i,j);
      }
```

ans: 4 10 2.500000

880.
```
int main()
      {
      int i = 5;
      if(1)
      {
      static int i;
      i++;
      printf("%d ", i);
      }
      printf("%d", i);
      }
```

ans: 1 5

881.
```
int main()
      {
      int a[4] = {23, 67, 90};
      printf("%d", a[3]);
      }
```

ans: 0 (when there are fewer initializations remaining elements are zero)

882.
```
int main()
      {
      int i = 1, 2;
      printf("%d", i);
      }
```

ans: error (declaration terminated incorrectly)

883.
```
int main()
      {
      int i;
```

```
      for( i=0;;i++)
      {
      i = i+2;
      break;
      printf("%d", i);
      }
      }
```

ans: no output (for loop enters only once and after i=i+2 it breaks)

884.
```
int main()
      {
      int i;
      i = 1, 2;
      printf("%d", i);
      }
```

ans: 1

885.
```
int i =20;
int maxlen = i;
int main()
      {
      int j = i;
      printf("i=%d , j=%d\n", i , j);
      }
```

ans: illegal initialization error (static and global variables shoul be initialized with constants or constant expression)

886.
```
int main()
      {
      int i =10;
      printf("%d", k);
      printf("%d",i);
      }
      int k = 20;
```

ans: error (undefined symbol k)

887.
```
int main()
      {
      int i =10;
      extern int k;
      printf("%d ", k);
      printf("%d",i);
      }
      int k = 20;
```

ans: 20 10

888.
```
int i =20;
int i,j=10;
int i;
main()
      {
      int j =20;
      printf("i=%d , j=%d\n", i, j);
      }
```

ans: i=20 , j=20

889.
```
int main()
      {
      int k=2,i =10;
      while(k--)
      {
      printf("%d ",disp(i));
      }
      }
      disp(int k)
      {
      static int i=0;
      return i=i+k;
      }
```

ans: 10 20

890. header files **usually** contains
a)only definitions
b)only declarations
c)both
d)compiled code for functions

ans: b)

891.
```
int main()
      {
      int i =3;
      while(i--)
      {
      int i =10;
      printf("%d ",i);
      }
      }
```

ans: 10 10 10

892.
```
int main()
      {
```

```
        char s[] = "hello\0 world";
        printf("%s...%d",s,strlen(s));
        }
```

ans: hello…5

893.
```
int main()
        {
        printf("%%%    s","hello");
        }
```

ans: %hello

894. What does fgetc return

(a) char
(b) int
(c) unsigned int
(d) void

ans: (b)

895.
```
main()
        {
        int i = 24;
        printf("%xd",i);
        }
```

ans: 18d

896.
```
main()
        {
        int i = 24;
        printf("%0xd",i);
        }
```

ans: 18d

897.
```
struct node
        {
        int i;
        };
main()
        {
        struct node n1;
        printf("%d",n1.i);
        }
```

ans: garbage value

898.
```
struct node_tag
```

```
      {
      int i;
      struct node_tag *pt;
      };
main()
      {
      printf("%d",sizeof(node_tag));
      }
```

ans: error (struct keyword is missing)

899.
```
struct node_tag
      {
      int i;
      struct node_tag *pt;
      };
main()
      {
      printf("%d",sizeof(struct node_tag));
      }
```

ans: 6

900.
```
typedef struct node_tag
      {
      int i=0;
      int j;
      }node;

main()
      {
      node n1;
      printf("%d",n1.i);
      }
```

ans: error (i should not be initialized like that)

901.
```
struct
      {
      int i;
      }node ;
main()
      {
      printf("%d",node.i);
      }
```

ans: 0

902.
```
main()
      {
      struct
```

```
      {
      int i;
      }node ;
      printf("%d",node.i);
      }
```

ans: 19125 (garbage value)

903.
```
struct tag
      {
      int i;
      };
main()
      {
      struct tag node;
      printf("%d",node.i);
      }
```

ans: garbage value (19125)

904.
```
struct node_tag
      {
      int a;
      struct node_tag *pt;
      };

main()
      {
      struct node_tag n1;
      n1.pt=&n1;
      n1.pt->a=5;
      printf("%d",n1.a);
      }
```

ans: 5

905.
```
main()
      {
      int n;
      scanf("%d",n);
      }
```

ans: runtime error (if n value equals address of inaccessible memory location)

906. (void *) is called

(a)pointer to void
(b)pointer to any data type
(c)generic pointer
(d)None of the above

ans: (c)

907.
```
main()
{
int i=5;
i=i++ * i++;
printf("%d",i);
}
```

ans: 27

908.
```
main()
{
int i=5;
printf("%d",i++ * i++);
}
```

ans: 30

909.
```
int main()
{
char *p = "Welcome To GESL\n";
*(p+10);
fprintf(stderr,"%s",p);
return 'c';
}
```

ans: Welcome To GESL

910.
```
int main()
{
char *p = "Welcome To GESL\n";
*(p+++10);
fprintf(stderr,"%s",p);
return 'c';
}
```

ans: elcome To GESL

911.
```
int main(void)
{
puts("hello\0world");
}
```

ans: hello (\0 null character is there after hello)

912.
```
union u
{
int ival;
float fval;
```

```
        char *sval;
        }
        size of u is?
```

ans: 4 bytes

913.
```
struct x
        {
        int i; int j;int k;
        };

        struct x *p;
        struct x arr[3];
        p =&arr[0];
        p++;
        what is p pointing to?
        a) pointing to i of arr[0]
        b) pointing to j of arr[0]
        c) pointing to k of arr[1]
        d) pointing to i of arr[1]
```

ans: d)

914.
```
struct a
        {
        int b;
        };
    struct b
        {
        int b;
        };
    int main()
        {
        struct a first;
        struct b second;
        first.b =10;
        second = first;
        printf("%d",second.b);
        }
```

ans: error (second and first are two different structure variables)

915.
```
struct a
        {
        int b;
        };

    int main()
        {
```

```
        struct a first,second;
        first.b =10;
        second = first;
        printf("%d",second.b);
        }
```

ans: 10 (second and first variables belong to same structure)

916.
```
struct a
        {
        int x;
        float y;
        double z;
        struct a b;
        };

int main()
        {
        ;
        }
```

ans: error (undefined structure 'a')

917.
```
struct a
        {
        int x;
        float y;
        double z;
        struct a *b;
        };

int main()
        {
        ;
        }
```

ans: no error

918.
```
struct a
        {
        struct b
        {
        int a;int b;
        }c;
        int *ptr;
        }d;

int main()
        {
        d.ptr=&d.c.a;
```

```
        }
```

ans: no error

919.
```
int main(void)
        {
        int *intPtr ;
        intPtr = (char*)malloc(sizeof(10));
        printf("\n The starting address is %d \n ",intPtr);
        return 0;
        }
```

ans: The starting address is 2274

920.
```
int main(void)
        {
        int intNum1,intNum2,num = 1,i;
        printf("\nEnter first number \n");
        scanf("%d",&intNum1);
        printf("\nEnter second number \n");
        scanf("%d",intNum2);
        for(i = 0;i<=3;i++)
        {
        num = intNum1 * intNum2 * num;
        }
        printf("\n num = %d " , num);
        return 0;
        }
```

ans: error (second scanf function reads a value into a memory location which may not be user accessible some times)

921.
```
int main(void)
        {
        int a=1,b=0, x;
        x = a++ && ++b;
        printf("%d %d %d ",a,b,x );
        }
```

ans: 2 1 1

922.
```
char *fn();
main()
        {
        char *s;
        s = fn();
        printf("%s\n",s );
        }
        char *fn()
        { return "Hello"; }
```

ans: Hello

923.
```
main()
      {
      int i;
      for( i=0; i<10-1; i+=2 );
      i+= 2;
      printf("i = %d\n", i );
      }
```

ans: i = 12

924.
```
f()
{ return 1,2,3; }

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

ans: 3

925. What is the difference between ++*ip and *ip++ ?

a) both increment value
b) ++*ip increment value and *ip++ increment address
c) both increment address
d) ++*ip increment address and *ip++ increment value

ans: b)

926.
```
int main (void)
      {
      int x = 48;
      printf("x = %s\n", x );
      }
```

ans: error (memory location 48 is not user accessible)

927.
```
# define ONE 1
# define TWO 2
//# define ONE TWO
//# define TWO ONE
int main (void)
      {
      printf("ONE = %d, TWO = %d\n", ONE, TWO );
      }
```

ans: ONE = 1, TWO = 2

928.
```
# define ONE 1
# define TWO 2
# define ONE TWO
//# define TWO ONE
int main (void)
      {
      printf("ONE = %d, TWO = %d\n", ONE, TWO );
      }
```

ans: ONE = 2, TWO = 2

929.
```
# define ONE 1
# define TWO 2
# define ONE TWO
# define TWO ONE
int main (void)
      {
      printf("ONE = %d, TWO = %d\n", ONE, TWO );
      }
```

ans: error (undefined symbol ONE and TWO)

930. If the command line arguments for the following program are <a.out>
and <GlobalEdgeSoftwareLtd>, what is the output of the program ?

```
int main(int argc, char **argvar)
      {
      printf("output = %s\n", *argvar[1]);
      }
```

ans: runtime error (check it out)

931.
```
void fun( int, int );
int main ( void )
      {
      fun( 12, ( 13, ( 14, 17 ) ) );
      return 0;
      }

void fun( int x, int y )
      {
      printf("x = %d, y = %d\n", x, y );
      }
```

ans: x = 12, y = 17

932.
```
main()
```

```
      {
      int i,j;
      int arr[4][4] =
{1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16};
      for (i=2;i<0;i--)
      for (j=2;j<=0;j--)
      printf("%d", arr[i][j]);
      }
```

ans: no output

933.
```
void main()
      {
      int i,x,sum=0;
      int arr[6]={1,2,3,4,5,6};
      for (i=0;i<4;i++)
      sum += func(arr[i]);
      printf("%d", sum);
      }
func(int x)
      {
      int val,x;
      val = 2;
      return(x+ val++);
      }
```

ans: error (multiple declaration of x)

934. Where is a variable defined in a function stores?

ans. Process Swappable Area

935.
```
void main()
      {
      int ari[] = {1,2,3,4,5};
      char arc[] = {'a','b','c','d','e'};
      printf("%d ",&ari[4]-&ari[2]);
      printf("%d ",&arc[3]-&arc[0]);
      }
```

ans: 2 3

936.
```
void main()
      {
      int i=0,j=0;
      int arr[4][4] =
{1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16};
      clrscr();
      for (i=2;i>=0;i--)
      for(j=2;j>=0;j--)
      printf("%d ", *(*(arr+j)+i));
```

```
            getch();
            }
```

ans: 11 7 3 10 6 2 9 5 1

```
937.  void main()
            {
            int a=10,b=11;
            printf("%d ",a+++b);
            printf("%d",a+++b);
            }
```

ans: 21 22

```
938.  void main()
            {
            int a;
            void c;
            }
```

ans: error (size of c is unknown)

```
939.  void main()
            {
            int a;
            void *c;
            }
```

ans: no error

```
940.  void main()
            {
            int a,b;
            a=0;
            b=(a=0)?2:3;
            printf("%d",b);
            }
```

ans: 3

```
942.  f1(int c)
            {
            printf("%d", c);
            }
      main()
            {
            int a=2;
            f1(a++);
            }
```

ans: 2

943.
```
f(int t)
      {
      switch(t)
      {
      int c;
      case 2: c=3;
      case 3: c=4;
      case 4: c=5;
      case 5: c=6;
      default: c=0;
      }
      printf("%d",c);
      }
main()
      {
      f(3);
      }
```

ans: error (undefined symbol ‘c’)

944.
```
f(int t)
      {
      int c;
      switch(t);
      {
      case 2: c=3;
      case 3: c=4;
      case 4: c=5;
      case 5: c=6;
      default: c=0;
      }
      printf("%d",c);
      }
main()
      {
      f(3);
      }
```

ans: error (case outside of switch since switch is terminated by ;)

945.
```
f(int t)
      {
      int c;
      switch(t)
      {
      case 2: c=3;
      case 3: c=4;
      case 4: c=5;
      case 5: c=6;
```

```
        default: c=0;
        }
        printf("%d",c);
        }
main()
        {
        f(3);
        }
```

ans: 0

946. What is the fallacy in the following program segment?

```
int *f1()
        {
        int a=5;
        return &a;
        }
f()
        int *b=f1()
        int c=*b;
        }
```

ans: we should not return address of a auto variable as its scope will be lost when function returns

947. Give the C language equivalents of the following
a)Function returning an int pointer
b)Function pointer returning an int pointer
c)Function pointer returning an array of integers
d)Array of function pointer returning an array of integers

```
int *x();
int *(*x)();
int ( (*x)() )[];
int ( (*x[])() )[];
```

948. Bootstrap loader program is a program belonging to

(a) ROM startup software
(b) ROM extension software
(c) ROM BIOS software
(d) ROM Basic software

ans: (a)

949.
```
void main()
        {
        int a=3,b=4,c=5;
        a=b+c;
        c=a+b;
```

```
        b=a+c;
        printf("%d %d %d ",a+b,b+c,c+a);
        a=b*c;
        c=a*b;
        printf("%d %d",a,c);
        }
```

ans: 31 35 22 286 6292

950.
```
void main()
        {
        printf("\nab\bcd\ref");
        }
```

ans: efd (\n-new line \b-backspace \r-carriage return)

951.
```
struct a
        {
        char b[7];
        char *s;
        };
    struct b
        {
        char *t;
        struct a y;
        };
    main()
        {
        struct b q={"Raipur" , "Kanpur" , "Jaipur"};
        printf("%s %s " , q.t , q.y.s);
        printf("%s %s" ,++q.t , ++q.y.s);
        }
```

ans: Raipur Jaipur aipur aipur

952.
```
main()
        {
        int a=1,b=2,c=3;
        printf("%d,%d",a,b,c);
        }
```

ans: 1,2

953.
```
main()
        {
        int i;
        for(i=0; i<=10;i++,printf("%d ",i));
        }
```

ans: 1 2 3 4 5 6 7 8 9 10 11

954.
```
main()
{
int a[]={10,20,30,40,50};
fun(a+1);
}
fun(int *p)
{
for(int i=1;i<=3;i++)
printf("%d",*(p+i));
}
```

ans: error (i should be declarated before for loop)

955.
```
main()
{
int a[]={10,20,30,40,50};
fun(a+1);
}
fun(int *p)
{
int i;
for( i=1;i<=3;i++)
printf("%d",*(p+i));
}
```

ans: 30 40 50

956.
```
main()
{
enum day {saturday,
sunday=3,
monday,
tuesday
};
printf("%d %d",saturday,tuesday);
}
```

ans: 0 5

957.
```
main()
{
int x;
enum day {
saturday,
sunday=-1,
monday,
tuesday
};
x=monday;
printf("%d",x);
}
```

ans: 0

958.
```
#define ADD(X,Y) X+Y
main()
      {
      #undef ADD(X,Y)
      fun();
      }
fun()
      {
      int y=ADD(3,2);
      printf("%d",y);
      }
```

ans: error (linker error)

959.
```
#define ADD(X,Y) X+Y
main()
      {
      //#undef ADD(X,Y)
      fun();
      }
fun()
      {
      int y=ADD(3,2);
      printf("%d",y);
      }
```

ans: 5

960.
```
int x;
int *p;
int **p1;
int ***p2;
```
How to assign each one?

ans:
```
p=&x;
p1=&p;
p2=&p1;
```

961. Which of the following is illegal
(a)void v;
(b)void *v;
(c)void **v;
(d)all are legal

ans: (a)

962.
```
#define int INTEGER/*line1*/
#define INTEGER int/*line 2*/
```

```
main()
      {
      INTEGER p=10;/*line 5*/
      printf("%d",p);
      }
```

ans: error (undefined symbol INTEGER and undefined symbol p)

963.
```
main()
      {
      char str={'H','E','L','L','O','\0'};
      printf("%s/n",str+1);
      }
```

ans: error

964.
```
main()
      {
      char arr[5]={'a','a','b','c','d','e'};
      printf("%s",arr);
      }
```

ans: error (too many initializers)

965.
```
main()
      {
      printf("\% ");
      printf("\\% ");
      printf("%% ");
      printf("%%%%");
      }
```

ans: % \% % %%

966.
```
main()
      {
      printf("%%%%% ");
      printf("%%%%%% ");
      printf("%");
      }
```

ans: %%% %%% %

967.
```
main()
      {
      int i=3;
      while(i>=0)
      printf("%d ",i--);
      return(0);
      }
```

ans: 3 2 1 0 (loop is executed 4 times)

968.
```
main()
{
int i=10;
printf("%d %d %d ",i,++i,i++);
}
```

ans: 12 12 10

969.
```
main()
{
int x,y,z;
x=2;
y=5;
z=x+++y;
printf("%d %d %d",x,y,z);
}
```

ans: 3 5 7

970.
```
void xyz(char a[10])
{
int i;
char b[10];
i=sizeof(a);
printf("%d",i);
}

main()
{
char s[10];
xyz(s);
}
```

ans: 4 (pointer takes 4 bytes)

971.
```
void xyz(char a[10])
{
int i;
char b[10];
i=sizeof(b);
printf("%d",i);
}

main()
{
char s[10];
xyz(s);
}
```

ans: 10

972.
```
main()
{
int i=6;
printf("%d",i++*i++);
}
```

ans: 42

973.
```
main()
{
char str[20] = "SANJAY";
printf("%d %d",sizeof(str),strlen(str));
}
```

ans: 20 6

974.
```
main()
{
unsigned int i=3;
while( i >=0)
printf( "%d", i--);
}
```

ans: infinite loop

975.
```
# define swap(a,b) temp=a; a=b; b=temp;
main()
{
int i, j, temp;
i=5;
j=10;
temp=0;
if( i > j)
swap( i, j );
printf( "%d %d %d", i, j, temp);
}
```

ans: 10 0 0

976.
```
func()
{
static int i = 10;
printf("%d",i);
i++;
}
```

What is the value of i if the function is called twice?

ans: 12

977.

```
func(int *i, int*j)
{
*i=*i * *i;
*j=*j* *j;
}

main()
{
int i = 5, j = 2;
func(&i,&j);
printf("%d %d", i, j);
}
```

ans: 25 4

978.

```
void f(char *p)
{
p=(char *) malloc(6);
strcpy(p,"hello");
}

void main()
{
char *p="bye";
f(p);
printf("%s",p);
}
```

ans: bye

979.

```
int x(char *a)
{
a=(char *) malloc(10*sizeof(char));
*a="hello";
}

main()
{
char *a="new";
x(a);
printf("%s",a);
}
```

ans: error (nonportable pointer conversion)

980.

```
main()
{
int i =1;
```

```
switch(i)
{
printf ("first");
i++;
case 1 : printf ("second");
break;
case 2 : printf("");
break;
default : printf("");
break;
}
}
```

ans: second (first won't be printed)

981.
```
void main()
{
char *s[10]={"welcome","to","india"};
printf("%d",sizeof(s));
}
```

ans: 40

982.
```
void main()
{
const int i=10;
int *p;
p=&i;
(*p)++;
printf("\n %d",i);
return;
}
```

ans: 11 (constant can be modified through a poiter)

983.
```
void main()
{
char c[]="123456789";
int i=4;
printf("%c %c", c[i], i[c]);
}
```

ans: 5 5

984.
```
void main()
{
int *ptr;
p=0;
p++;
printf("%u", p);
}
```

ans: error (assigning an absolute address to a pointer variable is invalid)

985.
```
void main()
{
double i=0.0;
switch(i)
{
case 0.0:
printf("jgdj");
case 1.0:
printf("ptoy");
break;
default:
printf("hdfv");
}
}
```

ans: error (switch expression should be integer expression or characters and case values should be constants or constat expression)

986.
```
void main()
{
int a=2;
if(a=3!=3)
printf("3");
else
printf("2");
return;
}
```

ans: 2

987.
```
#define TRUE 0
main()
{
int i=0;
while(TRUE)
{
printf(" %d \n",i);
i++;
}
printf(" %d \n",i);
i++;
}
```

ans: 0

988.
```
main()
```

```
        {
        int a[4]={1,2,3,4};
        int *ptr;
        ptr=a;
        *(a+3)=*(++ptr)+(*ptr++);
        printf("%d",a[3]);
        }
```

ans: 4

989.
```
f(char *p)
        {
        p[0]? f(++p):1;
        printf("%d ",*p);
        }
main()
        {
        f("abcde");
        }
```

ans: 0 0 101 100 99 98

990.
```
f(char *p)
        {
        p[0]? f(++p):1;
        printf("%c ",*p);
        }
main()
        {
        f("abcde");
        }
```

ans: null null e d c b (first two are null characters)

991.
```
f(char *p)
        {
        p=(char *)malloc(sizeof(6));
        strcpy(p,"HELLO");
        }
main()
        {
        char *p="BYE";
        f(p);
        printf("%s",p);
        }
```

ans: BYE

992.
```
f(char **p)
        {
        *p=(char *)malloc(sizeof(6));
```

```
      strcpy(*p,"HELLO");
      }
main()
      {
      char *p="BYE";
      f(p);
      printf("%s",p);
      }
```

ans: HELLO

993.
```
main()
      {
      char str[5]="hello";
      if(str==NULL) printf("string null");
      else printf("string not null");
      }
```

ans: string not null

994.
```
void f(int x)
      {
      int i;
      for (i=0;i<16;i++)
      {
      if(x &0x8000>>i) printf("1");
      else printf("0");
      }
      }
```

ans: binary representation of x

995.
```
void f(int *p)
      {
      static val=100;
      val=&p;
      }
main()
      {
      int a=10;
      printf("%d ",a);
      f(&a);
      printf("%d ",a);
      }
```

ans: error (nonportable pointer conversion)

996.
```
struct a
      {
      int x;
      float y;
```

```
      char c[10];
      };
union b
      {
      int x;
      float y;
      char c[10];
      };

main()
      {
      printf("%d %d",sizeof(a),sizeof(b));
      }
```

ans: error (here sizeof operator operand should be type name not tag name)

997.
```
struct a
      {
      int x;
      float y;
      char c[10];
      };
union b
      {
      int x;
      float y;
      char c[10];
      };

main()
      {
      printf("%d %d",sizeof(struct a),sizeof(union b));
      }
```

ans: 16 10

998.
```
main()
      {
      char a[10]="hello";
      strcpy(a,'\0');
      printf("%s",a);
      }
```

ans: error (0 memory location can't be copied to array a)

999.
```
main()
      {
      char a[10]="hello";
      strcpy(a,"\0");
```

```
            printf("%s",a);
            }
```

ans: no output

```
1000. void f(int*j)
            {
            int k=10;
            j= &k;
            }
      main()
            {
            int i,*j;
            i=5;
            j=&i;
            printf("i=%d ",i);
            f(j);
            printf("i=%d",i);
            }
```

ans: i=5 =5

```
1001. main()
            {
            int *s = "\0";
            if(strcmp(s,NULL)== 0)
            printf("\n s is null");
            else
            printf("\n s is not null");
            }
```

ans: error

```
1002. main()
            {
            int *s = "";
            if(strcmp(s,NULL)== 0)
            printf("\n s is null");
            else
            printf("\n s is not null");
            }
```

ans: error

```
1003. int arr[] = {1,2,3,4}
      int *ptr=arr;
      *(arr+3) = *++ptr + *ptr++;
      Final contents of arr[]
```

ans: 1,2,3,4

1004.
```
func(int *i, int*j)
      {
      *i=*i * *i;
      *j=*j* *j;
      }

main()
      {
      int i = 5, j = 2;
      func(&i,&j);
      printf("%d %d", i, j);
      }
```

ans: 25 4

1005.
```
int x(char *a)
      {
      a=(char *) malloc(10*sizeof(char));
      *a="hello";
      }

main()
      {
      char *a="new";
      x(a);
      printf("%s",a);
      }
```

ans: error (nonportable pointer conversion)

1006.
```
int x(char *a)
      {
      char *b;
      a=(char *) malloc(10*sizeof(char));
      b=(char *) malloc(10*sizeof(char));
      a="hello";
      b=a;
      }

main()
      {
      char *a="new";
      x(a);
      printf("%s",a);
      }
```

ans: new

1007.
```
int x(char *a)
      {
      char b[10];
```

```
        a=(char *) malloc(10*sizeof(char));
        a="hello";
        b=a;
        }

    main()
        {
        char *a="new";
        x(a);
        printf("%s",a);
        }
```

ans: error (lvalue required. strcpy should be used)

1008. a. for(i=0;i<num;i++)
b. for(i=num;i>0;i--)
Assuming no code optimization and assume that the microprocessor
has flags etc. which one is correct

ans: b (in 'b' zero flag is tested but in 'a' both compare instruction and flag testing will be there)

1009. will these two work in same manner

```
#define intp int *
typedef int * inpp;
```

ans: no

```
#define intp int *
typedef int * inpp;
main()
        {
        inpp t1,t2;
        intp m1,m2;
        printf("%d %d %d
%d",sizeof(t1),sizeof(t2),sizeof(m1),sizeof(m2));
        }
```

ans: 4 4 4 2 (t1,t2 and m1 are pointers and m2 is integer)

1010.

```
#define max 10
main()
        {
        int a,b;
        int *p,*q;
        a=10;b=19;
        p=&(a+b);
        q=&max;
```

```
}
```

ans: error (& must take address of a memory location)

1011.
```
main()
{
char S[6]= "HELLO";
printf("%s ",S[6]);
}
```

ans: error (trying to print from memory location zero)

1012.
```
unsigned char c;
for ( c=0;c!=256;c++2)
printf("%d",c);
```

No. of times the loop is executed ?

ans: infinite times

1013.
```
main()
{
char *x="string";
char y[]="add";
char *z;
z=(char *) malloc(sizeof(x)+sizeof(y)+1);
strcpy(z,y);
strcat(z,x);
printf("%s+%s=%s",y,x,z);
}
```

ans: add+string=addstring

1014.
```
char *(*(*a[n]) () )();
```

ans:an array of n pointers to functions returning pointers to functins returning pointers to characters

1015. What does the following piece of code do ?

```
sprintf(retbuf, "%d", n);
```

(A) Print the Integer value of n
(B) Copy the string representation of the integer variable n into the buffer retbuf
(C) Print the Float value of n.
(D) Print the string representation of the integer variable n.

ans: (B)

1016. What is wrong with the program

```
double d;
```

```
scanf("%f", &d);
```

(A) Instead of %f , %lf should be used for formatting
(B) Instead of %f , %d should be used for formatting
(C) Instead of %f , %D should be used for formatting
(D) Instead of %f , %n should be used for formatting

ans: (A)

1017.
```
void func()
      {
      int x = 0;
      static int y = 0;
      x++; y++;
      printf( "%d--%d ", x, y );
      }
int main()
      {
      func();
      func();
      return 0;
      }
```

ans: 1—1 1—2

1018.
```
main()
      {
      int I,j;
      for(I=0, j=I++; j>I; j++, I++)
      {
      printf("%d %d", I, j);
      }
      }
```

ans: no output

1019.
```
void main()
      {
      int z;
      int x = 5;
      int y = -10;
      int a = 4;
      int b = 2;
      z = x++ - --y * b /a;
      printf("%d",z);
      }
```

ans: 10

1020.
```
void main()
      {
```

```
int x[] = { 1, 4, 8, 5, 1, 4 };
int *ptr, y;
ptr = x + 4;
y = ptr - x;
printf("%d",y);
}
```

ans: 4

1021.
```
void main()
{
char str[20] = "ENIGMA";
char *p, *q, *r;
p=str;
q=p++;
r=p+3 - (p-q);
printf("%3s %5s", (++p)+3, r);
}
```

ans: A GMA

1022.
```
void main()
{
char str[20] = "ENIGMA";
char *p, *q, *r;
p=str;
q=p++;
r=p+3 - (q-p);
printf("%3s %5s", (++p)+3, r);
}
```

ans: A A

1023.
```
void inc_count(int count)
{
count ++;
}
int main()
{
int count = 0;
while (count < 10)
inc_count(count);
return count ;
}
```
What will be the value returned by the function main?

ans: infinite loop (control will not come to return statement)

1024. What is the difference between the two declaration ?

```
#include <stdio.h>
&
#include “stdio.h”
```

(A) No Difference
(B) The 2nd declaration will not compile
(C) First case Compiler looks in all default location and in 2nd case only in the working directory
(D) Depends on the Compiler

ans: (C)

1025.
```
#define FIRST_PART 7
#define LAST_PART 5
#define ALL_PARTS FIRST_PART + LAST_PART

int main()
      {
      printf ("The Square root of all parts is %d\n" ,
ALL_PARTS * ALL_PARTS);
      return(0);
      }
```

ans: The Square root of all parts is 47

1026.
```
void *p;
```
what operation cannot be performed on p?

ans : arithmetic operation unless it is properly typecasted

1027.
```
main()
      {
      char **p="Hello";
      printf("%s ",p);
      printf("%c",*p);
      //printf("%c",**p);
      }
```

ans: Hello H

1028.
```
main()
      {
      char **p="Hello";
      printf("%s ",p);
      printf("%c",*p);
      printf("%c",**p);
      }
```

ans: error (trying to access memory location 72 which may not be accessible)

1029.
```
main()
      {
      char str[]="Geneius";
      print (str);
      }
print(char *s)
      {
      if(*s)
      print(++s);
      printf("%c ",*s);
      }
```

ans: null null s u i e n e (null means null character)

1030.
```
main()
      {
      printf("Genius %d",fun(123));
      }
fun(int n)
      {
      return (printf("%d",n));
      }
```

ans: 123Genius 3

1031.
```
main()
      {
      int i=4;
      fun(i=i/4);
      printf("%d",i);
      }
fun(int i)
      {
      return i/2;
      }
```

ans: 1

1032.
```
main()
      {
      printf("\"NITK %%SURATHKAL%% !\"");
      }
```

ans: “NITK %SURATHKAL% !”

1033.
```
main()
      {
      printf("\"NITK \%SURATHKAL\% !\"");
      }
```

ans: “NITK %SURATHKAL% !”

1034.
```
main()
{
char str[7]="strings";
printf("%s",str);
}
```

ans: strings…….(till it encounters null character. While printing if it accesses inaccessible memory location error will come)

1035.
```
main()
{
char str[8]="strings";
printf("%s",str);
}
```

ans: strings

1036.
```
main()
{
char *p = "Oracle India";
p[5] == 'l' ? printf("Orcle") : printf("India");
}
```

ans: India

1037.
```
main()
{
int i=5;
recursive(i);
}
recursive(int u)
{
if(u > 0 )
recursive(u-1);
printf("%d ", u);
}
```

ans: 0 1 2 3 4 5

1038.
```
char *(*(*x() ) [] ) ()
```

ans: x is a function returnting pointer to array of pointers to functions returning character pointers

1039.
```
const int MAX=10;
main()
{
enum a {a,b,MAX};
```

```
            printf("%d",MAX);
            }
```

ans: 2

1040.
```
main()
            {
            const int MAX=10;
            enum a {a,b,MAX};
            printf("%d",MAX);
            }
```

ans: error (multiple declaration of MAX)

1041.
```
const int MAX=10;
main()
            {
            enum a {a,b,MAX};
            MAX=3;
            printf("%d",MAX);
            }
```

ans: error (lvalue required)

1042. 1)enum object is a const which can only be assigned a value at initialization or 2) a variable which can be assigned any value in the middle of the program?

ans: 1) is correct

1043. void *p;
what operation cannot be performed on p?

ans : arithmetic operation unless it is properly typecasted

1044.
```
main()
            {
            int i=4;
            fun(i=i/4);
            printf("%d",i);
            }
fun(int i)
            {
            return i/2;
            }
```

ans: 1

1045.
```
main()
            {
```

```
            int a=500,b,c;
            if(a>400)
            b=300; c=2--; printf("%d %d",b,c);
            }
```

ans: error (lvalue required)

1046.
```
main()
            {
            char c1='a',c2='Z';
            if (c1=='a'or c2=='z')
            printf("welcome");
            }
```

ans: error (for ORing || symbol should be used)

1047.
```
main()
            {
            int i;
            for(i=0;i<=10;i++);
            printf("%d ",i);
            }
```

ans: 11

1048.
```
main()
            {
            int x=10,y,z;
            y=--x;
            z=x--;
            printf("%d %d %d",x,y,z);
            }
```

ans: 8 9 9

1049.
```
main()
            {
            int i;
            int marks[]={100,90,75,90,80};
            for (i=0;i<4;i++)
            disp(&marks[i]);
            }
      disp(int *n)
            {
            printf("%d ",*n);
            }
```

ans: 100 90 75 90

1050.
```
main()
            {
```

```
int arr[]={1,2,3,4,5,6,7};
int *I,*j;
I=&arr[1];
j=&arr[5];
printf("%d %d",*j+*I,*j-*I);
}
```

ans: 8 4 (be careful about upper case and lower case)

1051.
```
main()
{
int n=2,sum=5;
switch(n)
{
case 2:sum=sum-2;
case 3:sum*=5;
break;
default:sum=0;
}
printf("%d",sum);
}
```

ans: 15

1052.
```
main()
{
int i=0;
for(i=0;i<20;i++)
{
switch(i)
{
case 0:
i+=5;
case 1:
i+=2;
case 5:
i+=5;
default:
i+=4;
break;
}
printf("%d ",i);
}
}
```

ans: 16 21

1053.
```
main()
{
int i=0;
for(i=0;i<20;i++)
```

```
            {
            switch(i)
            {
            default:
            i+=4;
            break;
            case 0:
            i+=5;
            case 1:
            i+=2;
            case 5:
            i+=5;
            }
            printf("%d ",i);
            }
            }
```

ans: 12 17 22

1054.
```
main()
            {
            int i=0;
            for(i=0;i<20;i++)
            {
            switch(i)
            {
            default:
            i+=4;
            case 0:
            i+=5;
            case 1:
            i+=2;
            case 5:
            i+=5;
            }
            printf("%d ",i);
            }
            }
```

ans: 12 29

1055.
```
func(int i)
            {
            if(i%2) return 0;
            else return 1;
            }
      main()
            {
            int i=3;
            i=func(i);
            i=func(i);
```

```
            printf("%d",i);
            }
```

ans: 1

1056.
```
char*g()
            {
            static char x[1024];
            return x;
            }
      main()
            {
            char*g1="First String";
            strcpy(g(),g1);
            g1=g();
            strcpy(g1,"Second String");
            printf("Answer is:%s", g());
            }
```

ans: Answer is:Second String

1057.
```
main()
            {
            int a[5]={1,3,6,7,0};
            int *b;
            b=&a[2];
            printf("%d",b[-1]);
            }
```

ans: 3

1058. Given a piece of code

```
      int x[10];
      int *ab;
      ab=x;
```

To access the 6th element of the array which of the following is incorrect?

(A) *(x+5) (B) x[5] (C) ab[5] (D) *(*ab+5}

ans: (D)

1059.
```
main()
            {
            int i = 5;
            printf("%d\n", i--*i++);
            }
```

ans: 20

1060.
```
main()
            {
```

```
            int i = 5;
            printf("%d\n", i++*i--);
            }
```

ans: 30

1061.
```
main()
            {
            int i = 5;
            printf("%d %d", i,i++*i--*i++);
            }
```

ans: 6 150

1062.
```
main()
            {
            char ch='a';
            printf("%d ",ch);
            printf("%d",((int)ch)++);
            }
```

ans: error (lvalue required)

1063.
```
int main()
            {
            int i;
            int array1[10], array2[10]={1,2,3,4,5,6,7,8,9,10};
            int *ep, *ip2 = &array2[0];
            int *ip1 = &array1[0];
            for(ep = &array1[9]; ep >= ip1; ep--)
            *ep = *ip2++ ;
            for(i=0;i<10;i++)
            printf("%d ",array1[i]);
            }
```

ans: copies array2 to array1 in reverse order (10 9 8 7 6 5 4 3 2 1)

1064.
```
int main()
            {
            char string[100];
            char *p;
            gets(string);
            for(p = string; *p != '\0'; p++);
            printf("%d", p - string);
            }
```

ans: prints the length of "string"

1065.
```
main()
            {
```

```
            int i=1 ;
            for (;;);
            {
            if(i==1)
            {
            printf("%d",i);
            exit();
            }
            }
            }
```

ans: infinite loop (no output)

1066.
```
      const int n = 7;
      int a[n];
      main()
            {
            ;
            }
```

ans: error (constant expression required for array size)

1067.
```
      void main()
            {
            char *p ;
            p = (char*)malloc(100);
            strcpy(p,"Oracle India");
            (p[5] == 'l') ? printf("Oracle") : printf("India");
            }
```

ans: India

1068.
```
      void main()
            {
            int a=5,b,i;
            int func(int y);
            for(i = 0;i < 5;i++)
            {
            a = b = func(a);
            printf("%d ",b);
            }
            }

      int func(int y)
            {
            static int x = 0;
            x++;
            y = y + x;
            return(y);
            }
```

ans: 6 8 11 15 20

1069.
```
void main()
{
char i;
for(i=0;i<=256;i++)
printf("%d",i);
}
```

ans: infinite loop

1070.
```
void main()
{
int ret,I = 10;
ret = func1(I);
printf("%d",ret);
}

int func1(int d)
{
int ret1;
ret1 = func2(--d);
return(ret1);
}

int func2(int y)
{
return(++y);
}
```

ans: 10 (replace ––d with d-- then answer will be 11)

1071.
```
void main()
{
char str[20];
strcpy(str,"Oracle India");
printf("%c",str[10]);
}
```

ans: i

1072.
```
void main()
{
int I=0,j=1;
printf("%d %d",--I ,j++);
}
```

ans: -1 1

1073. .#define sq(a) (a*a)

```
printf ("%d",sq (3+2));
```

ans: 11

1074. #define max 20

```
printf ("%d", ++max);
```

ans: lvalue required (error)

1075. Which of the following 'return' statement is correct?

```
return, return;
return(1, 2, 3);
return(return 4);
(return 5, return 6);
```

ans: return (1,2,3) is correct and 3 will be returned

1076.
```
void main()
{
char buffer[10] = {"Genesis"};
printf(" %d ", &buffer[4]- (buffer));
}
```

ans: 4

1077.
```
void main()
{
struct a
{
char ch[10];
char *str;
};
struct a s1={"Hyderabad","Bangalore"};
printf("\n%c%c ",s1.ch[0],*s1.str);
printf("%s %s",s1.ch,s1.str);
getch();
}
```

ans: HB Hyderabad Bangalore

1078.
```
void main()
{
int i,j,k;
for(i=0;i<3;i++)
k=sum(i,i);
printf("\n%d",k);
getch();
}
```

```
      sum(s,t)
            {
            static int m;
            m+=s+t;
            return m;
            }
```

ans: 6

```
1079. void main()
            {
            int i;
            for(i=1;i<6;++i)
            switch(i)
            {
            case 1:
            case 2: printf("%d,",i++);break;
            case 3: continue;
            case 4: printf("%d,",i);
            }
            printf("%d",i);
            getch();
            }
```

ans: 1,4,6

```
1080. void main()
            {
            char s[]="oracle is the best";
            char t[40];
            char *ss,*tt;
            while(*tt++=*ss++);
            printf("%s",t);
            getch();
            }
```

ans: core dump (Garbage value)

```
1081. void main()
            {
            int j[10]={9,7,5,3,1,2,4,6,9};
            int i=1;
            clrscr();
            for(;i<9;i++)
            printf("%d ",--j[i++]);
            getch();
            }
```

ans: 6 2 1 5

```
1082. void main()
```

```
{
int i,j,k,n=5;
clrscr();
for(i=5;i>0;i--)
{
j=1<i;
k=n&j;
k==0?printf("0"):printf("1");
}
getch();
}
```

ans: 11110

1083.
```
union
{
int a;
char b;
char c[10];
}u1;
void main()
{
int l=sizeof(u1);
printf("%d",l);
getch();
}
```

ans: 10

1084.
```
void main()
{
struct a
{
int i;
char *st1;
};
typedef struct a ST;
ST *str1;
str1=(ST*)malloc(100);
str1->i=100;
strcpy(str1->st1,"Welcome to Oracle");
printf(" %d %s\n",str1->i,str1->st1);
getch();
}
```

ans: 100 Welcome to Oracle

1085.
```
void main()
{
int i,j,k;
i=2;
```

```
j=4;
k=i++>j&2;
printf("%d",k);
if(++k && ++i<--j|| i++)
{
j=++k;
}
printf(" %d %d %d",i,-j--,k);
getch();
}
```

ans: 0 -5 -2 2

1086. Which of the following is not true incase of Command line arguments

A.The argc parameter is used to hold the number of arguments in the =
command line and is an integer
B. The argv parameter is a pointer to an array of a character =
pointer and each one points to command line arguments
C. The argv[1] always point to program name
D. None of above

ans: C

1087.
```
void main()
{
int i,j=20;
clrscr();
for(i=1;i<3;i++)
{
printf("%d,",i);
continue;
printf("%d",j);
break;
}
getch();
}
```

ans: 1,2,

1088.
```
void fn(int *a, int *b)
{
int *t;
t=a;
a=b;
b=t;
}
```

```
main()
      {
      int a=2;
      int b=3;
      fn(&a,&b);
      printf("%d %d",a,b);
      }
```

ans: 2 3

1089.
```
main()
      {
      char *p="abc";
      char *q="abc123";
      while(*p=*q)
      {
      printf("%c %c ",*p,*q);
      getch();
      }
      }
```

ans: a a a a a a a a a a a….(infinite loop)

1090.
```
#define void int
int i=300;
void main(void)
      {
      int i=200;
      {
      int i=100;
      printf("%d ",i);
      }
      printf("%d",i);
      }
```

ans: error

1091.
```
#define void int
int i=300;
void main(void argc)
      {
      int i=200;
      {
      int i=100;
      printf("%d ",i);
      }
      printf("%d",i);
      }
```

ans: 100 200

1092. main()
```
{
int A=5,x;
int fun(int *, int);
x=fun(&A,A);
printf("%d",x);
}

int fun(int *x, int y);
{
*x=*x+1;
return(*x*y);
}
```

ans: error (; in function definition)

1093. main()
```
{
int A=5,x;
int fun(int *, int);
x=fun(&A,A);
printf("%d",x);
}

int fun(int *x, int y);
```

ans: linker error (undefined symbol fun)

1094. main()
```
{
int A=5,x;
int fun(int *, int);
x=fun(&A,A);
printf("%d",x);
}

int fun(int *x, int y)
{
*x=*x+1;
return(*x*y);
}
```

ans: 30

1095. main()
```
{
int i;
int x[]={0,0,0,0,0};
for(i=1;i<=4;i++)
x[x[i]]++;
for(i=0;i<5;i++)
```

```
            printf(" %d",x[i]);
            }
```

ans: 4 0 0 0 0

1096.
```
main()
            {
            int i,j,count;
            int a[3][4] = { -1,2,3,-4,5,6,7,-8,9,10,11,12};
            count=0;
            for(i=2;i<1;i--)
            {
            for(j=3;j<1;j--)
            {
            if(a[i][j]<1)
            count+=1;
            }
            }
            printf("%d",count);
            }
```

ans: 0

1097.
```
int sum,count;
      void main(void)
            {
            for(count=5;sum+=--count;)
            printf("%d ",sum);
            }
```

ans: 4 7 9 10 10 9 7 4

1098.
```
void main(void)
            {
            int i;
            for(i=2;i<=7;i++)
            printf("%5d",fno());
            }
      fno()
            {
            static int f1=1,f2=1,f3;
            return(f3=f1+f2,f1=f2,f2=f3);
            }
```

ans: 2 3 5 8 13 21

1099.
```
void main (void)
            {
            int x;
            x = 0;
            if (x=0)
```

```
            printf ("Value of x is 0");
            else
            printf ("Value of x is not 0");
            }
```

ans: Value of x is not 0

1100.
```
int foo(char *);
            void main (void)
            {
            char arr[100] = {"Welcome to Mistral"};
            foo (arr);
            }
      foo (char *x)
            {
            printf ("%d\t",strlen (x));
            printf ("%d\t",sizeof(x));
            return 0;
            }
```

ans: 18 4

1101.
```
display()
            {
            printf (" Hello World");
            return 0;
            }
      void main (void)
            {
            int (*func_ptr)();
            func_ptr = display;
            (* func_ptr)();
            }
```

ans: Hello World

1102.
```
void main (void)
            {
            int i=0;
            char ch = 'A';
            do
            putchar (ch);
            while(i++ < 5 || ++ch <= 'F');
            printf("%c ",ch);
            }
```

ans: AAAAAABCDEFG

1103.
```
char *rev();
      void main(void)
            {
```

```
printf ("%c", *rev());
}
char *rev ()
{
char dec[]="abcde";
return dec;
}
```

ans: a (another ans: prints garbage, address of the local variable should not returned)

1104.
```
void main(void)
{
int i;
static int k;
if(k=='0')
printf("one");
else if(k== 48)
printf("two");
else
printf("three");
}
```

ans: three

1105.
```
void main(void)
{
enum sub{chemistry, maths, physics};
struct result
{
char name[30];
enum sub sc;
};
struct result my_res;
strcpy (my_res.name,"Patrick");
my_res.sc=physics;
printf("name: %s  ",my_res.name);
printf("pass in subject: %d\n",my_res.sc);
}
```

ans: name: Patrick pass in subject: 2

1106.
```
main()
{
char *p = "MISTRAL";
printf ("%c\t", *(++p));
p -=1;
printf ("%c\t", *(p++));
}
```

ans: I   M

1107. What does the declaration do?

```
int (*mist) (void *, void *);
```

ans: declares mist as a pointer to a function that has two void * arguments and returns an int.

1108.
```
void main (void)
{
int mat [5][5],i,j;
int *p;
p = & mat [0][0];
for (i=0;i<5;i++)
for (j=0;j<5;j++)
mat[i][j] = i+j;
printf ("%d\t", sizeof(mat));
i=4;j=5;
printf( "%d", *(p+i+j));
}
```

ans: 100 5

1109.
```
void main (void)
{
char *p = "Bangalore";
#if 0
printf ("%s", p);
#endif
}
```

ans: no output

1110.
```
void main (void)
{
char *p = "Bangalore";
#if 1
printf ("%s", p);
#endif
}
```

ans: Bangalore

1111.
```
main()
{
int x;
float y;
y = *(float *)&x;
}
```

ans: the program containing the expression compiles and runs without any errors

1112. int main()

```
{
char *a= "Novell";
char *b;
b=malloc(10*sizeof(char));
memset(b,0,10);
while(*b++=*a++);
printf("%s",b);
getch();
return 0;
}
```

ans: no output

1113. int *(*p[10])(char *)

ans: array of pointers to functions with character pointer as argument and returning pointer to integer

1114. main()

```
 {
  printf("hello"):
  main();
}
```

ans: hellohello….(prints recursively till stack overflows)

1115. #define scanf "%s is a string"

```
main()
{
printf(scanf,scanf);
}
```

ans: %s is a string is a string

1116. main()

```
{
printf("%u",-1);
}
```

ans: 65535

1117. automatic variables are destroyed after function ends because

a)stored in swap
b)stored in stack and poped out after function returns
c)stored in data area
d)stored in disk

ans: b)

1118. main()
```
{
printf(5+"facsimile");
}
```

ans: mile

1119. How to fine the size of the int without using size of operator?

ans. store -1 in that location so by two's complement all ones will be stored in that location. Keep right shifting it so zeros will be appened on the left. Once the location is filled with all zeros, the number of shifts gives you the size of that operator.

1120. main()
```
{
char a[2];
*a[0]=7;
*a[1]=5;
printf("%d",&a[1]-a);
}
```

ans: error (invalid indirection)

1121. main(){
```
char a[]="hellow";
char *b="hellow";
char c[5]="hellow";
printf("%s %s %s ",a,b,c);
printf(" ",sizeof(a),sizeof(b),sizeof(c));
}
```

ans: error (too many initializers)

1122. main()
```
{
float value=10.00;
printf("%g %0.2g %0.4g %f",value,value,value,value);
}
```

ans: 10 10 10 10.000000

1123. Which one has no L-Value

[i] a[i]
[ii] i
[iii] 2

[iv] *(a+i)

ans. [iii]

1124.
```
main()
{
int i=10,j;
for(j=0;j<1;j++)
{
int i=20;
printf("%d ",i);
}
printf("%d",i);
}
```

ans: 20 10

1125.
```
main()
{
int i;
printf("%d",i);
}
extern int i=20;
```

ans: garbage value

1126.
```
main()
{
extern int i;
printf("%d",i);
}
int i=20;
```

ans: 20

1127.
```
main()
{
int n=6;
printf("%d",n)
;
}
```

ans: 6

1128.
```
main()
{
int arr[5]={2,4};
printf("%d %d %d \n",arr[2],arr[3],arr[4]);
}
```

ans: 0 0 0

1129. main()
```
{
struct e
{
char name[20];
int a;
float b;
};
struct e ast={"Hell"};
printf("%d %f \n",ast.a,ast.b);
}
```

ans: 0 0.000000

1130. Given an array of size N in which every number is between 1 and N, determine if there are any duplicates in it. You are allowed to destroy the array if you like.

ans: 1)compare all the elements with the selected element 2)put it in ascending order and compare adjacent elements

1131. Given an array of characters which form a sentence of words, give an efficient algorithm to reverse the order of the words (not characters) in it.

ans: take an array of pointers and and chage the addresses of the pointers

1132. test whether a number is a power of 2.

ans: first test whether it is even or odd and the bitcount. If bitcount is one it is a power of 2.

1133. Given two strings S1 and S2. Delete from S2 all those characters which occur in S1 also and finally create a clean S2 with the relevant characters deleted.

1134. Reverse a linked list.

ans: Possible answers —

```
iterative loop
curr->next = prev;
prev = curr;
curr = next;
next = curr->next
endloop

recursive reverse(ptr)
```

```
if (ptr->next == NULL)
return ptr;
temp = reverse(ptr->next);
temp->next = ptr;
return ptr;
end
```

1135. Given an array t[100] which contains numbers between 1..99. Return the duplicated value. Try both O(n) and O(n-square).

1136. Given an array of characters. How would you reverse it. ? How would you reverse it without using indexing in the array.

ans: use pointers

1137. Write, efficient code for extracting unique elements from a sorted list of array. e.g. (1, 1, 3, 3, 3, 5, 5, 5, 9, 9, 9, 9) -> (1, 3, 5, 9).

1138. Given an array of integers, find the contiguous sub-array with the largest sum.

1139. An array of integers. The sum of the array is known not to overflow an integer. Compute the sum. What if we know that integers are in 2's complement form?

ans: If numbers are in 2's complement, an ordinary looking loop like
for(i=total=0;i< n;total+=array[i++]); will do. No need to check for overflows!

1140. Write a program to remove duplicates from a sorted array.

```
ans:  int remove_duplicates(int * p, int size)
{
int current, insert = 1;
for (current=1; current < size; current++)
if (p[current] != p[insert-1])
{
p[insert] = p[current];
current++;
insert++;
} else
current++;
return insert;
}
```

1141. Write an efficient C code for 'tr' program. 'tr' has two command line arguments. They both are strings of same length. tr reads an input file, replaces each character in the first

string with the corresponding character in the second string. eg. 'tr abc xyz' replaces all 'a's by 'x's, 'b's by 'y's and so on. ANS.
a) have an array of length 26.
put 'x' in array element corr to 'a'
put 'y' in array element corr to 'b'
put 'z' in array element corr to 'c'
put 'd' in array element corr to 'd'
put 'e' in array element corr to 'e'
and so on.

the code
```
while (!eof)
{
c = getc();
putc(array[c - 'a']);
}
```

1142. Write a program to find whether a given m/c is big-endian or little-endian!

1143. If you're familiar with the ? operator x ? y : z
you want to implement that in a function: int cond(int x, int y, int z); using only ~, !, ^, &, +, |, <<, >> no if statements, or loops or anything else, just those operators, and the function should correctly return y or z based on the value of x. You may use constants, but only 8 bit constants. You can cast all you want. You're not supposed to use extra variables, but in the end, it won't really matter, using vars just makes things cleaner. You should be able to reduce your solution to a single line in the end though that requires no extra vars.

1144. Under what circumstances can one delete an element from a singly linked list in constant time?

ans: If the list is circular and there are no references to the nodes in the list from anywhere else! Just copy the contents of the next node and delete the next node. If the list is not circular, we can delete any but the last node using this idea. In that case, mark the last node as dummy!

1145. Given a singly linked list, determine whether it contains a loop or not.

ans: (a) Start reversing the list. If you reach the head, gotcha! there is a loop!
But this changes the list. So, reverse the list again.
(b) Maintain two pointers, initially pointing to the head. Advance one of them one node at a time. And the other one, two

nodes at a time. If the latter overtakes the former at any time, there is a loop!

```
p1 = p2 = head;

do {
     p1 = p1->next;
     p2 = p2->next->next;
            } while (p1 != p2);
```

1146. Given a singly linked list, print out its contents in reverse order. Can you do it without using any extra space?

ans: Start reversing the list. Do this again, printing the contents.

1147. Reverse a singly linked list recursively. function prototype is node * reverse (node *) ;

ans:

```
 node * reverse (node * n)
      {
            node * m ;

            if (! (n && n -> next))
              return n ;

            m = reverse (n -> next) ;
            n -> next -> next = n ;
            n -> next = NULL ;
            return m ;
      }
```

1148. Given a singly linked list, find the middle of the list.

HINT. Use the single and double pointer jumping. Maintain two pointers, initially pointing to the head. Advance one of them one node at a time. And the other one, two nodes at a time. When the double reaches the end, the single is in the middle. This is not asymptotically faster but seems to take less steps than going through the list twice.

1149. Reverse the bits of an unsigned integer.

ans:

```
 #define reverse(x)                                  \
                    (x=x>>16|(0x0000ffff&x)<<16,            \
                       x=(0xff00ff00&x)>>8|
(0x00ff00ff&x)<<8, \
```

```
                            x=(0xf0f0f0f0&x)>>4|
(0x0f0f0f0f&x)<<4, \
                            x=(0xcccccccc&x)>>2|
(0x33333333&x)<<2, \
                            x=(0xaaaaaaaa&x)>>1|(0x55555555&x)<<1)
```

1150. Compute the number of ones in an unsigned integer.

ans:

```
#define count_ones(x)                           \
                    (x=(0xaaaaaaaa&x)>>1+(0x55555555&x), \
                        x=(0xcccccccc&x)>>2+(0x33333333&x), \
                        x=(0xf0f0f0f0&x)>>4+(0x0f0f0f0f&x), \
                        x=(0xff00ff00&x)>>8+(0x00ff00ff&x), \
                        x=x>>16+(0x0000ffff&x))
```

1151. Compute the discrete log of an unsigned integer.

ans:

```
#define discrete_log(h) \
 (h=(h>>1)|(h>>2), \
 h|=(h>>2), \
 h|=(h>>4), \
 h|=(h>>8), \
 h|=(h>>16), \
 h=(0xaaaaaaaa&h)>>1+(0x55555555&h), \
 h=(0xcccccccc&h)>>2+(0x33333333&h), \
 h=(0xf0f0f0f0&h)>>4+(0x0f0f0f0f&h), \
 h=(0xff00ff00&h)>>8+(0x00ff00ff&h), \
 h=(h>>16)+(0x0000ffff&h))
```

If I understand it right, log2(2) =1, log2(3)=1, log2(4)=2..... But this macro does not work out log2(0) which does not exist! How do you think it should be handled?

1152. How do we test most simply if an unsigned integer is a power of two?

ans: `#define power_of_two(x) \ ((x)&&(~(x&(x-1))))`

1153. Set the highest significant bit of an unsigned integer to zero.

ans: Set the highest significant bit of an unsigned integer to zero

```
#define zero_most_significant(h) \
(h&=(h>>1)|(h>>2), \
h|=(h>>2), \
```

```
h|=(h>>4), \
h|=(h>>8), \
h|=(h>>16))
```

1154. You're given an array containing both positive and negative integers and required to find the sub-array with the largest sum (O(N) a la KBL). Write a routine in C for the above.

1155. Given two strings S1 and S2. Delete from S2 all those characters which occur in S1 also and finally create a clean S2 with the relevant characters deleted.

1156. Besides communication cost, what is the other source of inefficiency in RPC? (answer : context switches, excessive buffer copying). How can you optimize the communication? (ans : communicate through shared memory on same machine, bypassing the kernel _ A Univ. of Wash. thesis)

1157. An array of characters. Reverse the order of words in it.

ans: Write a routine to reverse a character array. Now call it for the given array and for each word in it.

1158. Given a list of numbers (fixed list) Now given any other list, how can you efficiently find out if there is any element in the second list that is an element of the first list (fixed list).

1159. Print an integer using only putchar. Try doing it without using extra storage.

1160.
```
int *a;
char *c;
*(a) = 20;
*c = *a;
printf("%c",*c);
```

what is the output?

Before using pointer they should be assigned some address

1161. to reverse a string using a recursive function, without swapping or using an extra memory.

1162. Give the outputs of a compiler and assembler and loader and linker etc.

1163. Tell about strtok & strstr functions.

1164.
```
#define int sizeof(int)
main()
```

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

ans: 2

1165.
```
#define i sizeof(i)
main()
        {
        printf("%d",i);
        }
```

ans: error (undefined symbol i)