PROGRAMMING IN C

Short Type Questions

Jasaswi Prasad Mohanty.

Questions on Operators

Find the output:

```
main()
{
        int k=35;
        printf("\n%d %d %d",k==35,k=50,k>40);
}
```

Output:

0 50 0

Find the output:

```
main()
{
   int x=15;
   printf("\n %d  %d  %d",x!=15,x=20,x<30);
}
```

Output:

1 20 1

Find the output:

```
main()
{
        int x=3,y,z;
        y= x=10;
        z=x<10;
        printf("\nx=%d y=%d z=%d",x,y,z);
}
```

Output:

x=10 y=10 z=0

Find the output:

```
main()
{
   int a=5,b,c;
   b=a=15;
   c=a<15;
   printf("a=%d b=%d c=%d",a,b,c);
}
```

Output:

a=15 b=15 c=0

Find the output:

```
main()
{
   int x=4,y,z;
   y=--x;
   z=x--;
   printf("%d %d %d\n",x,y,z);
}
```

Output:

2 3 3

Find the output:

```
main()
{
   int x=4,y=3,z;
   z=x-- -y;
   printf("%d %d %d\n",x,y,z);
}
```

Output:

3 3 1

Find the output:

```
#include<stdio.h>
main()
{
   int a=10;
   printf("\n %d", a>100);
}
```

Output:

0

Find the output:

```
main()
{
    int i=-1,j=1,k,l;
    k=!i && j;
    l=!i || j;
    printf("%d %d\n",i,j);
}
```

Output:

-1 1

Find the output:

```
main()
{
    int j=4,k;
    k=!5 && j;
    printf("k=%d\n",k);
}
```

Output:

k=0

Find the output:

```
main()
{
    int k,num=30;
        k=(num>5 ? (num<=10 ? 100 : 200) : 500);
        printf("\n%d",num);

}
```

Output:

30

Find the output:

```
main()
{
   int i=-1,j=1,k,l;
   k=i && j;
   l=i || j;
   printf("%d %d\n",l,j);

}
```

Output:

1 1

Find the output:

```
main()
{
        int i=4,j=-1,k=0,w,x,y,z;
       w = i || j || k;
       x = i && j && k;
       y = i || j && k;
       z = i && j || k;
       printf("w=%d x=%d y=%d z=%d",w,x,y,z);
}
```

Output:

w=1 x=0 y=1 z=1

Find the output:

```
main()
{
        int i=4,j=-1,k=0,y,z;
        y = i+5 && j+1 || k+2;
        z = i+5 || j+1 && k+2;
        printf("\ny=%d z=%d",y,z);
}
```

Output:

y=1 z=1

Questions
on
IF Control Structure

Find the output:

```
main()
{
        int a=300,b,c;
        if(a>=400)
                b=300;
        c=200;
                printf("\n%d\t%d",b,c);
}
```

Output:

1486880 200

Find the output:

```
main()
{
        int a=500,b,c;
        if(a>=400)
                b=300;
        c=200;
        printf("\n%d\t%d",b,c);
}
```

Output:

300 200

Find the output:

```
main()
{
        int x=10,y=20;
        if(x==y);
        printf("\n%d\t%d",x,y);
}
```

Output:

10 20

Find the output:

```
main()
{
        int x=3,y=5;
        if(x==3)
                printf("%d",x);
        else;
                printf("\t%d",y);
}
```

Output:

3 5

Find the output:

```
main()
{
        int x=3;
        float y=3.0;
        if(x==y)
                printf("x and y are equal");
        else
                printf("x and y are not equal");
}
```

Output:

x and y are equal

Find the output:

```
main()
{
    int i=65;
    char j='A';
    if(i==j)
     printf("C is WOW\n");
    else
     printf("C is a headache\n");
}
```

Output:

C is WOW

Find the output:

```
void main()
{
   int x = 5;
   if (x < 1)
    printf("hello");
   if (x == 5)
    printf("hi");
   else
    printf("no");
}
```

Output:

hi

Find the output:

```
void main()
{
    int x;
    if (x)
     printf("hi");
    else
     printf("how are u");
}
```

Output:

hi

Find the output:

```
main()
{
    printf(“HELLO”);
    if(!1)
    printf(“WORLD”);
}
```

Output: HELLO

Find the output:

```
#include<stdio.h>
main()
{
      char ch=-63;
      int num=-36;
      unsigned int unum = -18;
      if(ch>num)
      {
        printf("A");
        if(ch>unum)
              printf("B");
        else
              printf("C");
      }
      else
      {
        printf("D");
        if(num<unum)
              printf("E");
        else
              printf("F");
      }
}
```

Output:

D E

Find the output:

```
#include <stdio.h>
int x;
void main()
{
    if (x)
     printf("hi");
    else
     printf("how are u");
}
```

NOTE:

Initial value of global variable is 0.

Output:

how are u.

Find the output:

```
#include <stdio.h>
void main()
{
    int x = 0;
    if (x == 0)
     printf("hi");
    else
     printf("how are u");
     printf("hello");
}
```

Output:

hihello

Find the output:

```
void main()
{
    int x = 5;
    if (x < 1);
     printf("Hello");
 }
```

Output:

Hello

Point out the errors if any:

```
main()
{
        float a=12.25,b=12.52;
        if (a=b)
              printf("\na and b are equal");
}
```

Output:

a and b are equal

Point out the errors if any:

```
main()
{
        int j=10,k=12;
    if(k>=j)
    {
        {
            k=j;
            j=k;
        }
    }
}
```

Output:

No error. No output.

Point out the errors if any:

```
main()
{
        if('X'<'x')
                printf("ASCII value of X smaller than x");
}
```

Output:

ASCII value of X smaller than x

Point out the errors if any:

```
main()
{
        int x=10;
        if (x>=2) then
                printf("\n%d",x);
}
```

Output:

ERROR. Error at then.

Point out the errors if any:

```
main()
{
        int x=10;
        if x>=2
                printf("\n%d",x);
}
```

Output:

ERROR. Parenthesis missing in if.

Point out the errors if any:

```
main()
{
        int x=10,y=15;
        if (x%2=y%3)
              printf("Hello");
}
```

Output:

ERROR.

Note:

Left hand of = should be a variable.

Point out the errors if any:

```
main()
{
        int x=30,y=40;
    if(x==y)
        printf("x is equal to y\n");
    elseif(x>y)
        printf("x is gt y\n");
    elseif(x<y)
        printf("x is lt y\n");
}
```

Output:

ERROR. No space in between else and if.

Point out the errors if any:

```
main()
{
        int a,b;
    scanf("%d%d",a,b);
    if(a>b);
        printf("This is a game\n");
    else
        printf("You have to play it\n");
}
```

Output:

ERROR. No ‘&’ before a and b in scanf.
Misplaced else as if ends with a semicolon.

Find the output:

```
main()
{
        int i=4,z=12;
        if (i=5 || z>50)
                printf("Hello");
        else
                printf("Bye");
}
```

Output:

Hello

Find the output:

```
main()
{
        int i=4,z=12;
        if (i=5 && z>50)
                printf("Let Us C");
        else
                printf("Wish C was free");
}
```

Output:

Wish C was free

Find the output:

```
main()
{
    int i=-3,j=3;
        if (!i + !j * 1)
            printf(“Massaro");
        else
            printf(“Bennarivo");
}
```

Output:

Bennarivo

Find the output:

```
main()
{
   int a=40;
   if(a>40 && a<45)
    printf("a is greater than 40 and less than 45\n");
   else
    printf("%d",a);
}
```

Output:

40

Find the output:

```
main()
{
   int p=8,q=20;
   if(p==5 && q>5)
    printf("Why not C\n");
   else
    printf("Definitely C!\n");
}
```

Output:

Definitely C!

Find the output:

```
main()
{
   int x=20,y=40,z=45;
   if(x>y && x>z)
    printf("x is big\n");
   else if(y>x && y>z)
    printf("y is big\n");
   else if(z>x && z>y)
    printf("z is big\n");
}
```

Output:

z is big

Find the output:

```
main()
{
   int a=2, b=3, c=4;
   if(a&&b)
    c=10;
   else
    c=20;
   printf("\n%d\t%d\t%d",a,b,c);
}
```

Output: 2 3 10

Find the output:

```
main()
{
    int a=2, b=3, c=4;
    if(c!=100)
      a=10;
    else
      b=10;
    if(a+b >10)
      c=12;
      a=20;
      b=++c;
    printf("\n%d\t%d\t%d",a,b,c);
}
```

Output: 20 13 13

Find the output:

```
main()
{
    int a=2, b=3, c=4;
    if(a)
    if(b)
     c=10;
    else
     c=20;
    printf("\n%d\t%d\t%d",a,b,c);
}
```

Output: 2 3 10

Find the output:

```
main()
{
    int a=2, b=3, c=4;
    if(a == 0 || b>=c && c>0)
    if(a && b)
     c=10;
    else
     c=20;
    printf("\n%d\t%d\t%d",a,b,c);
}
```

Output: 2 3 4

Find the output:

```
main()
{
    int a=2, b=3, c=4;
    if(a=b)
      c++;
    printf("\n%d\t%d\t%d",a,b,c);
}
```

Output: 3 3 5

Find the output:

```
main()
{
    printf(“Hello”);
    if(-1)
    printf(“World”);
}
```

Output: HelloWorld

Find the output:

```
main()
{
    int a=10, b=20, c=30, d=40;
    if(c<d)
    if(c<b)
      printf("\n c");
    else if(a<c)
      printf("\n a");
    if(a>b)
      printf("\n b");
    else
      printf("\n d");
}
```

Output: a
d

Find the output:

```
main()
{
    int a=3;
    if(a<10)
     printf(“Less”);
    if(a<20)
     printf(“Less”);
    if(a<30)
     printf(“Less”);
}
```

Output: LessLessLess

Find the output:

```
main()
{
    int a=2, b=3, c=4;
    if(a=b<c)
    {
     c++;
     a--;
    }
    ++b;
    printf("\n%d\t%d\t%d",a,b,c);
}
```

Output: 0 4 5

Point out the errors if any:

```
main()
{
        int tag=0, code=1;
        if(tag = = 0)
                (code>1?printf("\nHello")?printf("\nHi"));
        else
                printf("\nHello Hi !!");
}
```

Output:

ERROR. Error at ?

Point out the errors if any:

```
main()
{
    int i=10,j;
        i>=5? (j=10):(j=15);
        printf("\n%d %d",i,j);
}
```

Output:

10 10

Point out the errors,if any:

```
main()
{
    int i=2,j=5;
    if(i==2 && j==5)
        printf("Satisfied at last\n");
}
```

Output:

Satisfied at last

Point out the errors if any:

```
main()
{
        int code,flag;
        if(code==1 & flag==0)
                printf(“The eagle has landed");
}
```

Output:

No error. No output.

Point out the errors if any:

```
main()
{
        char spy='a', password='z';
    if(spy=='a' or password=='z')
        printf("All birds are safe in the nest\n");
}
```

Output:

ERROR. or is not an operator.

Point out the errors if any:

```
main()
{
        int i=10,j=20;
    if(i=5) && if(j=10)
        printf("Have a nice day\n");}
```

Output:

ERROR in line 3.

Point out the errors if any:

```
main()
{
        int x=10,y=20;
        if(x>=2 and y<=50)
                printf("%d\n",x);
}
```

Output:

ERROR. and is not an operator.

Point out the errors if any:

```
main()
{
        int a,b;
    if(a==1 & b==0)
        printf("God is great\n");
}
```

Output:

No error. No output.

Point out the errors if any:

```
main()
{
        int x=2;
    if(x==2 && x!=0);
    {
        printf("Hi\n");
        printf("Hello\n");
    }
    printf("Bye\n");
}
```

Output: No error

Hi

Hello

Bye

Point out the errors if any:

```
main()
{
      int i=10,j=10;
   if(i && j==10);
   printf("Have a nice day\n");}
```

Output: No error

Have a nice day

Point out the errors if any:

```
main()
{
        int code,flag;
        if(code=1 | flag==0)
                printf("Hello");
}
```

Output: No error

Hello

Questions
on
Case Control Structure

Find the output (when 1 is entered):

```
#include <stdio.h>
void main()
{
    double ch;
    printf("enter a value btw 1 to 2:");
    scanf("%lf", &ch);
    switch (ch)
    {
     case 1:
          printf("1");
          break;
     case 2:
          printf("2");
          break;
    }
}
```

Output:

Compile time error

Find the output (when 1 is entered):

```
#include <stdio.h>
void main()
{
    int ch;
    printf("enter a value btw 1 to 2:");
    scanf("%d", &ch);
    switch (ch)
    {
     case 1:
          printf("1\n");
     default:
          printf("2\n");
    }
}
```

Output:

1

2

Find the output (when 2 is entered):

```
#include <stdio.h>
void main()
{
    int ch;
    printf("enter a value btw 1 to 2:");
    scanf("%d", &ch);
    switch (ch)
    {
     case 1:
          printf("1\n");
          break;
          printf("Hi");
     default:
          printf("2\n");
    }
}
```

Output:

2

Find the output:

```
main()
{
    char ch='Y';
    switch(ch)
    {
     default:
          printf("\nYES  OR NO");
     case 'Y':
          printf("YES");
          break;
     case 'N':
          printf("NO");
          break;
    }
}
```

Output: YES

Find the output:

```
#include<stdio.h>
main()
{
    int ch=65;
    switch(ch)
    {
      case ‘a’:
      case ‘A’:
            printf(“\nA”);
            break;
      case ‘b’:
      case ‘B’:
            printf(“\nB”);
            break;
      default:
            printf(“\ndefault”);
    }
}
```

Output: A

Find the output:

```
#include<stdio.h>
main()
{
    int ch=56;
    switch(ch)
    {
      case ‘a’:
      case ‘A’:
            printf(“\nA”);
            break;
      case ‘b’:
      case ‘B’:
            printf(“\nB”);
            break;
      default:
            printf(“\ndefault”);
    }
}
```

Output: default

Find the output:

```
#include<stdio.h>
main()
{
    int ch=56;
    switch(ch)
    {
      default:
            printf("\ndefault");
      case 'a':
      case 'A':
            printf("\nA");
            break;
      case 'b':
      case 'B':
            printf("\nB");
            break;
    }
}
```

Output: default
A

Find the output:

```
main()
{
	char suite=3;
	switch(suite)
	{
		case 1:
			printf("\nDiamond");
		case 2:
			printf("\nSpade");
		default:
			printf("\nHeart");
	}
	printf("\nthought one wears a suite");
}
```

Output:

Heart

thought one wears a suite

Find the output:

```
main()
{
    int c=3;
    switch(c)
    {
     case '3':
          printf("You never win the silver prize\n");
          break;
     case 3:
          printf("You always lose the gold prize\n");
          break;
     default:
          printf("Of course provided you win a prize\n");
    }
}
```

Output:

You always lose the gold prize

Find the output:

```
main()
{
    int i=3;
    switch(i)
    {
      case 0:
            printf("Customers are dicey\n");
      case 1+0:
            printf("Markets are pricey\n");
      case 4/2:
            printf("Investors are moody\n");
      case 8%5:
            printf("At least employees are good\n");
    }
}
```

Output:

At least employees are good

Find the output:

```
main()
{
    int k;
    float j=2.0;
    switch(k=j+1)
    {
     case 3:
          printf("Trapped\n");
          break;
     default:
          printf("Caught\n");
    }
}
```

Output:

Trapped

Find the output:

```
main()
{
     int ch='a'+'b';
    switch(ch)
    {
     case 'a':
     case 'b':
          printf("You entered b\n");
     case 'A':
          printf("a as in ashar\n");
     case 'b'+'a':
          printf("Tou entered a and b\n");
    }
}
```

Output:

You entered a and b

Find the output:

```
main()
{
     int i=1;
    switch(i-2)
    {
     case -1:
          printf("Feeding fish\n");
     case 0:
          printf("Wedding grass\n");
     case 1:
          printf("Mending roof\n");
     default:
          printf("Just to survive\n");
    }
}
```

Output:

Feeding Fish
Wedding grass
Mending roof
Just to survive

Find the output:

```
main()
{
	int k,j=2;
	switch(k=j+1)
	{
		case 0:
			printf("\nTailor");
		case 1:
			printf("\nTutor");
		case 2:
			printf("\nTramp");
		default:
			printf("\nPure Simple Egghead!");
	}
}
```

Output:

Pure Simple Egghead!

Find the output:

```
main()
{
    int i=0;
    switch(i)
    {
        case 0:
            printf("\nTemple is a non-issue");
        case 1:
            printf("\nAandhi is never stable");
        case 2:
            printf("\nMandal will ruin India");
        case 3:
            printf("\nWe want better politicians");
    }
}
```

Output:

Temple is a non-issue
Aandhi is never stable
Mandal will ruin India
We want better politicians

Find the output:

```
main()
{
	char i='1';
	switch(i)
	{
		case 0:
			printf("\nFeeding fish");
		case 1:
			printf("\nWedding grash");
		case 2:
			printf("\nMending roof");
		default:
			printf("\nJust to survive");
	}
}
```

Output:

Just to survive

Find the output:

```
main()
{
        char ch='a';
        switch(ch)
        {
                case 'a':
                case 'b':
                        printf("\nYou entered b");
                case 'A':
                        printf("\na as in ashar");
        }
}
```

Output:

You entered b

a as in ashar

Point out the errors if any:

```
main()
{
        int suite=1;
        switch(suite);
        {
                case 0;
                        printf("\nClub");
                case 1:
                        printf("\nDiamond");
        }
}
```

Output:

ERROR. case label not within switch statement.
After case label : should be there in place of ;

Point out the errors if any:

```
main()
{
        int temp;
        scanf("%d",&temp);
        switch(temp)
        {
                case (temp<=20):
                        printf("\nOooooooohhhh! Damn cool!");
                case (temp>20 && temp <= 30):
                        printf("Rain rain here again");
                case (temp>30 && temp<=40):
                        printf("\nWish I am on Everest");
                default:
                        printf("Good old nagpur weather");
        }
}
```

Output:

ERROR. Case label cannot contain the above type of statement. It should be either integer or character constant.

Point out the errors if any:

```
main()
{
    float a=3.5;
    switch(a)
    {
        case 0.5:
            printf("\nThe art of C");
            break;
        case 1.5:
            printf("\nThe spirit of C");
            break;
        case 2.5:
            printf("\nSee through C");
            break;
        case 3.5:
            printf("\nSimply C");
    }
}
```

Output:

ERROR. Switch quantity not an integer. Case label does not reduce to an integer constant

Point out the errors if any:

```
main()
{

    int a=3,b=4,c;
    c=b-a;
    switch(c)
    {
      case 1||2:
            printf("God give me an opportunity to change things\n");
            break;
      case a||b:
            printf("God give me an opportunity to run my show\n");
            break;
    }
}
```

Output:

ERROR at case a||b.. Case label should be an integer or char constant.

Point out the errors if any:

```
main()
{
      int x=3;
       switch(x)
       {
              case 1+2:
                     printf("Hello");
                     break;
              case 3:
                     printf("Hye");
                     break;
       }
}
```

Output:

ERROR. Duplicate case values not allowed.

Questions
on
Loop Control Structure

Find the output:

```
#include<stdio.h>
main()
{
    int i=0, n=10;
    while(i==0)
    {
     if(n<10)
     break;
     n--;
    }
    printf("\n i = %d and n=%d",i,n);
}
```

Output:

i=0 and n=9

Find the output:

```
main()
{
   float pi=3.14,area;
   int r=7;
   while(r>=0)
   {
    area =pi * r* r;
    printf("\n Area = %f",area);
   }
}
```

Output:

Area = 153.86
Area = 153.86
Area = 153.86
Area = 153.86
.
.
.

Find the output:

```
main()
{
        int j;
        while(j<=10)
        {
                printf("\n%d",j);
                j=j+1;
        }
}
```

Output:

No output.

Find the output:

```
main()
{
    int x=4;
    while(x==1)
    {
     x=x-1;
     printf("%d\n",x);
     --x;
    }
}
```

Output:

No output.

Find the output:

```
main()
{
        int i=1;
        while(i<=10);
        {
                printf("\n%d",i);
                i++;
        }
}
```

Output:

No output. Infinite loop.

Find the output:

```
main()
{
        int x=1;
        while(x==1)
        {
                x=x-1;
                printf("\n%d",x);
        }
}
```

Output:

0

Find the output:

```
main()
{
        int i;
    while(i=10)
    {
        printf("%d\n",i);
        i=i+1;
    }
}
```

Output:

10 will be printed infinite no of times.

Find the output:

```
main()
{
    int x=4,y=0,z;
    while(x>=0)
    {
     x--;
     y++;
     if(x==y)
          continue;
     else
          printf("\n%d %d",x,y);
    }
 }
```

Output: 3 1

1 3

0 4

-1 5

Find the output:

```
main()
{
        while('a'<'b')
            printf("\nMalayalam is pallindrome");
}
```

Output:

Infinite loop. “Malayalam is palindrome” will be printed infinite no of times.

Find the output:

```
main()
{
        int i=10;
        while(i=20)
                printf("\nA computer buff");
}
```

Output:

Infinite loop. “A computer buff” will be printed infinite no of times.

Find the output:

```
main()
{
    int x=4,y=0,z;
   while(x>=0)
    {
     if(x==y)
          break;
     else
          printf("\n%d %d",x,y);
     x--;
     y++;
    }
}
```

Output:

4 0

3 1

Find the output:

```
main()
{
        int j;
        while(j<=10)
        {
                printf("\n%d",j);
                j=j+1;
        }
}
```

Output:

No output.

Find the output:

```
#include<stdio.h>
main()
{
   int i=0;
   char c=’0’;
   while(i<10)
   {
    printf(“%c”,c+i);
    i++;
   }
}
```

Output: 0123456789

Find the output:

```
#include<stdio.h>
main()
{
   while(1)
   printf("HI");
}
```

Output: HI will be printed infinite no of times

Point out the errors if any:

```
main()
{
        char x;
        while(x=0;x<=255;x++)
              printf("\nAscii value %d character %c",x,x);
}
```

Output:

ERROR. Replace while by for.

Find the output:

```
main()
{
   int i=0;
   do
   {
    printf("\n %d",i);
    i++;
   } while(i>=0);
   printf("\n STOP");
}
```

Output:

0
1
2
…
32768
STOP

Find the output:

```
#include<stdio.h>
main()
{
    int i=0;
    do
    {
     if(i>10)
     continue;
     i++;
    }while(i<20);
    printf("%d",i);
}
```

Output: No output
Infinite loop

Find the output:

```
main()
{
        int i=0;
        for(;i;)
            printf("\nHere is some mail for you");
}
```

Output:

No output.

Find the output:

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

Output:

Infinite loop. 1 will be printed infinite no of times.

Find the output:

```
main()
{
	int i=1,j=1;
	for(;;)
	{
		if(i>5)
			break;
		else
			j+=i;
		printf("\t%d",j);
		i+=j;
	}
}
```

Output:

2 5

Find the output:

```
main()
{
   int num=10;
   for(;--num;)
    printf("%d",num);
}
```

Output: 987654321

Find the output:

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

Output: 11
11
11
11
11
11
11
11
11
11
11
11

Find the output:

```
main()
{
   int num=0;
   for(; ; )
   printf("HI");
}
```

Output: Print HI infinite no of times

Find the output:

```
main()
{
   int i=1;
   for(;i<=1;i++)
   {
    printf("\n %d",i);
    printf("\n STOP");
   }
}
```

Output: 1
STOP

Find the output:

```
#include<stdio.h>
main()
{
   int i,j;
   for(i=10;i>=0;i--)
   {
    printf("\n");
    for(j=1;j>=0;j--)
    printf("%d",j);
   }
}
```

Output:

```
10
10
10
10
10
10
10
10
10
10
10
```