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Q 1)
A)

→ Recursion is the process which comes into existence when a function calls a copy of itself to work on a smarter problem.

Any function which calls itself is called a recursion function, and such a function calls are called recursive calls.

However, it is important to impose a termination condition of recursion or the function runs ~~for~~ in an infinite loop.

Code:

```
# include <stdio.h>
int add (int n);
void main ()
{
  int n;
  printf ("Enter a positive integer : ");
  scanf ("%d", &n);
  printf ("Sum = %d", add(n));
  getch();
}
int add (int n)
{
  if (n!=0)
     return (n+add(n-1));    /* recursive call */
  else
     return 0;
}
```

Q1. B)

→ Code:

```
#include <stdio.h>
int main()
{
    for (int i=1; i<=5; i++)
    {
        for (int j=1; j<=i; j++)
        {
            if (j%2==1)
                printf("1");
            else
                printf("0");
        }
        printf("\n");
    }
    return 0;
}
```

Q1.

c)

→ In switch-case, a break statement is used to terminate a statement sequence.

When a break statement is reached, the switch terminates and jump the flow of control jumps to the next line following the switch-case statement.

The break statement is optional. If omitted, execution will continue on to the next case.

The flow of control will fall through to subsequent cases until a break is reached.

Code:

```
#include <stdio.h>
int main ()
{
  int day;
  scanf ("%d", day);
  switch (day)
  {
    case 1:
      printf ("Sunday \n");
      break;
    case 2:
      printf ("Monday \n");
      break;
```

Q1. c) Continued....

```
        case 3:
            printf ("Tuesday \n");
            break;
        case 4:
            printf ("Wednesday \n");
            break;
        case 5:
            printf ("Thursday \n");
            break;
        case 6:
            printf ("Friday \n");
            break;
        case 7:
            printf ("Saturday \n");
            break;
    }
    return 0;
}
```