Q1. Explain the process of Compilation and differentiate primary and secondary memory. (2+2)

Q2. WAP to print all the prime numbers between less than 100. (5)

Q3. WAP to print pattern on the output screen → (5)

Q4. Predict Outputs: (Assume there is no compilation and syntax errors) (1+2+1.5+1.5)

```
main( ) {
    int x, y= 5, z= 4;
    x = y>z;
    printf("%d",x+1);
}
```

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

```
main() {
    int i=99;
    switch(i) {
        case 'c': printf("Programming") ;
        case 'd': printf(" is essential.");
        default: printf(" Don’t ignore it");
    }
}
```

```
main() {
    char a = 30;
    char b = 40;
    char c = 10;
    char d = (a * b) / c;
    printf("%c", d);
}
```
Q1. What are functions, how and why they are used? Explain various methods for argument passing and return for the functions with examples?

2+4

Q2. Write a program to print sum of n natural numbers using recursion?

4

Q3. Perform the following number system operations

(3+3+1+1+1+1)

<table>
<thead>
<tr>
<th>a. (326536)\textsubscript{10} ↔ (______)\textsubscript{16} ↔ (1175610)\textsubscript{10}</th>
<th>b. (4FB32A5)\textsubscript{16}-(B15FD00)\textsubscript{16}= (______)\textsubscript{16} Subtract using r’s complement method</th>
</tr>
</thead>
<tbody>
<tr>
<td>c. (27145.25)\textsubscript{10} ↔ (______)\textsubscript{8}</td>
<td>d. (-552)\textsubscript{10} ↔ (______)\textsubscript{2} Represent in 16 bit sign magnitude form</td>
</tr>
<tr>
<td>e. (1100011)\textsubscript{2}+(0111011)\textsubscript{2}=(______)\textsubscript{2}</td>
<td>f. (700001)\textsubscript{8}-(573456)\textsubscript{8}=(______)\textsubscript{8}</td>
</tr>
</tbody>
</table>
Q1. "My salary is $3000" (1)
Write the printf statement which will EXACTLY reproduce the line of text above.

Q2. Code: (2)
```c
int a=10,b=5;
b=a++ + ++a + ++b; printf("%d,%d,%d,%d",b,
a++,a,++a);
```
what will be the output when following code is executed?

Q3. Write for loop for the above pattern (4)
```
1
21
321
4321
54321
```

Q4. Give difference between getch(), getchar() and getche(). (2)

Q5. Output (2)
```c
int i;
void increment ( int i )
{
  i++;
}
int main()
{
  for ( i = 0; i < 10;)
  {
    increment( i )
  }
  printf("i=%d\n", i);
  return 0;
}
```