Here are the obj dump outputs of the said programs :

A1:

```
PS C:\assingment1> objdump -l -d -r A-1.o

A-1.o:     file format pe-x86-64

Disassembly of section .text:

0000000000000000 <main>:
   0:   55                      push   %rbp
   1:   48 89 e5                mov    %rsp,%rbp
   4:   48 83 ec 40             sub    $0x40,%rsp
   8:   e8 00 00 00 00          callq  d <main+0xd>
                        9: R_X86_64_PC32        __main
   d:   c7 45 fc 06 00 00 00    movl   $0x6,-0x4(%rbp)
  14:   c7 45 f8 0a 00 00 00    movl   $0xa,-0x8(%rbp)
  1b:   c7 45 f4 14 00 00 00    movl   $0x14,-0xc(%rbp)
  22:   8b 45 f8                mov    -0x8(%rbp),%eax
  25:   0f af 45 f4             imul   -0xc(%rbp),%eax
  29:   83 c0 19                add    $0x19,%eax
  2c:   89 45 f0                mov    %eax,-0x10(%rbp)
  2f:   c7 45 fc 06 00 00 00    movl   $0x6,-0x4(%rbp)
  36:   48 8d 05 00 00 00 00    lea    0x0(%rip),%rax        # 3d <main+0x3d>
                        39: R_X86_64_PC32       Z-0x4
  3d:   8b 00                   mov    (%rax),%eax
  3f:   89 45 ec                mov    %eax,-0x14(%rbp)
  42:   f2 0f 10 05 00 00 00    movsd  0x0(%rip),%xmm0       # 4a <main+0x4a>
  49:   00
                        46: R_X86_64_PC32       .rdata
  4a:   f2 0f 11 45 e0          movsd  %xmm0,-0x20(%rbp)
  4f:   f2 0f 10 45 e0          movsd  -0x20(%rbp),%xmm0
  54:   f2 0f 2c d0             cvttsd2si %xmm0,%edx
  58:   48 8d 05 00 00 00 00    lea    0x0(%rip),%rax        # 5f <main+0x5f>
                        5b: R_X86_64_PC32       Z-0x4
  5f:   89 10                   mov    %edx,(%rax)
  61:   48 8d 05 00 00 00 00    lea    0x0(%rip),%rax        # 68 <main+0x68>
                        64: R_X86_64_PC32       Z-0x4
  68:   8b 00                   mov    (%rax),%eax
  6a:   8d 50 01                lea    0x1(%rax),%edx
  6d:   48 8d 05 00 00 00 00    lea    0x0(%rip),%rax        # 74 <main+0x74>
                        70: R_X86_64_PC32       Z-0x4
  74:   89 10                   mov    %edx,(%rax)
  76:   90                      nop
  77:   48 83 c4 40             add    $0x40,%rsp
  7b:   5d                      pop    %rbp
  7c:   c3                      retq
  7d:   90                      nop
  7e:   90                      nop
  7f:   90                      nop
PS C:\assingment1> vim A-1.i
```

A2:

```
PS C:\assingment1> objdump -l -d -r A-2.o

A-2.o:     file format pe-x86-64

Disassembly of section .text:

0000000000000000 <f>:
   0:   55                      push   %rbp
   1:   48 89 e5                mov    %rsp,%rbp
   4:   48 83 ec 10             sub    $0x10,%rsp
   8:   48 8d 05 00 00 00 00    lea    0x0(%rip),%rax        # f <f+0xf>
                        b: R_X86_64_PC32        Z-0x4
   f:   8b 00                   mov    (%rax),%eax
  11:   89 45 f4                mov    %eax,-0xc(%rbp)
  14:   83 7d f4 09             cmpl   $0x9,-0xc(%rbp)
  18:   7f 10                   jg     2a <f+0x2a>
  1a:   c7 45 fc 05 00 00 00    movl   $0x5,-0x4(%rbp)
  21:   c7 45 f8 11 00 00 00    movl   $0x11,-0x8(%rbp)
  28:   eb 1b                   jmp    45 <f+0x45>
  2a:   c7 45 fc 06 00 00 00    movl   $0x6,-0x4(%rbp)
  31:   c7 45 f8 14 00 00 00    movl   $0x14,-0x8(%rbp)
  38:   83 7d f4 00             cmpl   $0x0,-0xc(%rbp)
  3c:   75 07                   jne    45 <f+0x45>
  3e:   c7 45 f8 00 00 00 00    movl   $0x0,-0x8(%rbp)
  45:   8b 55 fc                mov    -0x4(%rbp),%edx
  48:   89 d0                   mov    %edx,%eax
  4a:   c1 e0 02                shl    $0x2,%eax
  4d:   01 d0                   add    %edx,%eax
  4f:   01 c0                   add    %eax,%eax
  51:   89 c2                   mov    %eax,%edx
  53:   8b 45 f8                mov    -0x8(%rbp),%eax
  56:   01 c2                   add    %eax,%edx
  58:   48 8d 05 00 00 00 00    lea    0x0(%rip),%rax        # 5f <f+0x5f>
                        5b: R_X86_64_PC32       Z-0x4
  5f:   89 10                   mov    %edx,(%rax)
  61:   90                      nop
  62:   48 83 c4 10             add    $0x10,%rsp
  66:   5d                      pop    %rbp
  67:   c3                      retq
  68:   90                      nop
  69:   90                      nop
  6a:   90                      nop
  6b:   90                      nop
  6c:   90                      nop
  6d:   90                      nop
  6e:   90                      nop
  6f:   90                      nop
PS C:\assingment1>
```

A3 :

```
PS C:\assingment1> gcc -save-temps A-1.c
PS C:\assingment1> gcc -save-temps A-3.c
PS C:\assingment1> objdump -l -d -r A-3.o

A-3.o:     file format pe-x86-64

Disassembly of section .text:

0000000000000000 <main>:
   0:   55                      push   %rbp
   1:   48 89 e5                mov    %rsp,%rbp
   4:   48 83 ec 30             sub    $0x30,%rsp
   8:   e8 00 00 00 00          callq  d <main+0xd>
                        9: R_X86_64_PC32        __main
   d:   c7 45 fc 00 00 00 00    movl   $0x0,-0x4(%rbp)
  14:   eb 03                   jmp    19 <main+0x19>
  16:   d1 65 fc                shll   -0x4(%rbp)
  19:   83 7d fc 63             cmpl   $0x63,-0x4(%rbp)
  1d:   7e f7                   jle    16 <main+0x16>
  1f:   c7 45 f8 00 00 00 00    movl   $0x0,-0x8(%rbp)
  26:   eb 21                   jmp    49 <main+0x49>
  28:   c7 45 f4 00 00 00 00    movl   $0x0,-0xc(%rbp)
  2f:   eb 0e                   jmp    3f <main+0x3f>
  31:   8b 45 f8                mov    -0x8(%rbp),%eax
  34:   0f af 45 f4             imul   -0xc(%rbp),%eax
  38:   01 45 fc                add    %eax,-0x4(%rbp)
  3b:   83 45 f4 01             addl   $0x1,-0xc(%rbp)
  3f:   83 7d f4 31             cmpl   $0x31,-0xc(%rbp)
  43:   7e ec                   jle    31 <main+0x31>
  45:   83 45 f8 01             addl   $0x1,-0x8(%rbp)
  49:   83 7d f8 18             cmpl   $0x18,-0x8(%rbp)
  4d:   7e d9                   jle    28 <main+0x28>
  4f:   b8 00 00 00 00          mov    $0x0,%eax
  54:   48 83 c4 30             add    $0x30,%rsp
  58:   5d                      pop    %rbp
  59:   c3                      retq
  5a:   90                      nop
  5b:   90                      nop
  5c:   90                      nop
  5d:   90                      nop
  5e:   90                      nop
  5f:   90                      nop
PS C:\assingment1>
```

A4 :

```
PS C:\assingment1> gcc -save-temps A-4.c
PS C:\assingment1> objdump -l -d -r A-4.o

A-4.o:     file format pe-x86-64


Disassembly of section .text:

0000000000000000 <main>:
   0:   55                      push   %rbp
   1:   48 89 e5                mov    %rsp,%rbp
   4:   48 83 ec 50             sub    $0x50,%rsp
   8:   e8 00 00 00 00          callq  d <main+0xd>
                        9: R_X86_64_PC32        __main
   d:   c7 45 d8 01 00 00 00    movl   $0x1,-0x28(%rbp)
  14:   c7 45 dc 02 00 00 00    movl   $0x2,-0x24(%rbp)
  1b:   c7 45 e0 03 00 00 00    movl   $0x3,-0x20(%rbp)
  22:   c7 45 fc 00 00 00 00    movl   $0x0,-0x4(%rbp)
  29:   eb 16                   jmp    41 <main+0x41>
  2b:   8b 45 fc                mov    -0x4(%rbp),%eax
  2e:   48 98                   cltq
  30:   8b 54 85 d8             mov    -0x28(%rbp,%rax,4),%edx
  34:   8b 45 fc                mov    -0x4(%rbp),%eax
  37:   48 98                   cltq
  39:   89 54 85 e4             mov    %edx,-0x1c(%rbp,%rax,4)
  3d:   83 45 fc 01             addl   $0x1,-0x4(%rbp)
  41:   83 7d fc 02             cmpl   $0x2,-0x4(%rbp)
  45:   7e e4                   jle    2b <main+0x2b>
  47:   48 8d 45 e4             lea    -0x1c(%rbp),%rax
  4b:   48 89 45 f0             mov    %rax,-0x10(%rbp)
  4f:   48 8b 45 f0             mov    -0x10(%rbp),%rax
  53:   48 83 c0 08             add    $0x8,%rax
  57:   c7 00 05 00 00 00       movl   $0x5,(%rax)
  5d:   b8 00 00 00 00          mov    $0x0,%eax
  62:   48 83 c4 50             add    $0x50,%rsp
  66:   5d                      pop    %rbp
  67:   c3                      retq
  68:   90                      nop
  69:   90                      nop
  6a:   90                      nop
  6b:   90                      nop
  6c:   90                      nop
  6d:   90                      nop
  6e:   90                      nop
  6f:   90                      nop
PS C:\assingment1> _
```

A5 :

```
PS C:\assingment1> gcc -save-temps A-5.c
PS C:\assingment1> objdump -l -d -r A-5.o

A-5.o:     file format pe-x86-64


Disassembly of section .text:

0000000000000000 <main>:
   0:   55                      push   %rbp
   1:   48 89 e5                mov    %rsp,%rbp
   4:   48 83 ec 30             sub    $0x30,%rsp
   8:   e8 00 00 00 00          callq  d <main+0xd>
                        9: R_X86_64_PC32        __main
   d:   c7 45 f4 0a 00 00 00    movl   $0xa,-0xc(%rbp)
  14:   8b 45 f0                mov    -0x10(%rbp),%eax
  17:   3b 45 f4                cmp    -0xc(%rbp),%eax
  1a:   7e 10                   jle    2c <main+0x2c>
  1c:   c7 45 fc 03 00 00 00    movl   $0x3,-0x4(%rbp)
  23:   c7 45 f8 02 00 00 00    movl   $0x2,-0x8(%rbp)
  2a:   eb 0e                   jmp    3a <main+0x3a>
  2c:   c7 45 fc 02 00 00 00    movl   $0x2,-0x4(%rbp)
  33:   c7 45 f8 03 00 00 00    movl   $0x3,-0x8(%rbp)
  3a:   8b 55 fc                mov    -0x4(%rbp),%edx
  3d:   8b 45 f8                mov    -0x8(%rbp),%eax
  40:   01 d0                   add    %edx,%eax
  42:   89 45 f0                mov    %eax,-0x10(%rbp)
  45:   b8 00 00 00 00          mov    $0x0,%eax
  4a:   48 83 c4 30             add    $0x30,%rsp
  4e:   5d                      pop    %rbp
  4f:   c3                      retq
PS C:\assingment1> _
```

B1:


```
Windows PowerShell                                                                                    —  □  ✕
PS C:\assingment1> objdump -l -d -r B-1.o

B-1.o:     file format pe-x86-64


Disassembly of section .text:

0000000000000000 <AddTwo>:
   0:   55                      push   %rbp
   1:   48 89 e5                mov    %rsp,%rbp
   4:   89 4d 10                mov    %ecx,0x10(%rbp)
   7:   83 45 10 02             addl   $0x2,0x10(%rbp)
   b:   8b 45 10                mov    0x10(%rbp),%eax
   e:   5d                      pop    %rbp
   f:   c3                      retq

0000000000000010 <main>:
  10:   55                      push   %rbp
  11:   48 89 e5                mov    %rsp,%rbp
  14:   48 83 ec 30             sub    $0x30,%rsp
  18:   e8 00 00 00 00          callq  1d <main+0xd>
                        19: R_X86_64_PC32       __main
  1d:   c7 45 fc 03 00 00 00    movl   $0x3,-0x4(%rbp)
  24:   8b 45 fc                mov    -0x4(%rbp),%eax
  27:   89 c1                   mov    %eax,%ecx
  29:   e8 d2 ff ff ff          callq  0 <AddTwo>
  2e:   89 45 fc                mov    %eax,-0x4(%rbp)
  31:   8b 45 fc                mov    -0x4(%rbp),%eax
  34:   48 83 c4 30             add    $0x30,%rsp
  38:   5d                      pop    %rbp
  39:   c3                      retq
  3a:   90                      nop
  3b:   90                      nop
  3c:   90                      nop
  3d:   90                      nop
  3e:   90                      nop
  3f:   90                      nop
PS C:\assingment1>
```

B2 :

```
Windows PowerShell                                                    —    □    ×

PS C:\assingment1> objdump -l -d -r B-2.o

B-2.o:      file format pe-x86-64


Disassembly of section .text:

0000000000000000 <main>:
   0:   55                      push   %rbp
   1:   48 89 e5                mov    %rsp,%rbp
   4:   48 83 ec 30             sub    $0x30,%rsp
   8:   e8 00 00 00 00          callq  d <main+0xd>
                        9: R_X86_64_PC32        __main
   d:   c7 45 f8 0a 00 00 00    movl   $0xa,-0x8(%rbp)
  14:   c7 45 fc 00 00 00 00    movl   $0x0,-0x4(%rbp)
  1b:   eb 10                   jmp    2d <main+0x2d>
  1d:   48 8d 05 00 00 00 00    lea    0x0(%rip),%rax        # 24 <main+0x24>
                        20: R_X86_64_PC32       N-0x4
  24:   8b 00                   mov    (%rax),%eax
  26:   01 45 f8                add    %eax,-0x8(%rbp)
  29:   83 45 fc 01             addl   $0x1,-0x4(%rbp)
  2d:   83 7d fc 03             cmpl   $0x3,-0x4(%rbp)
  31:   7e ea                   jle    1d <main+0x1d>
  33:   8b 45 f8                mov    -0x8(%rbp),%eax
  36:   48 83 c4 30             add    $0x30,%rsp
  3a:   5d                      pop    %rbp
  3b:   c3                      retq
  3c:   90                      nop
  3d:   90                      nop
  3e:   90                      nop
  3f:   90                      nop
PS C:\assingment1>
```

B3 :

```
Windows PowerShell                                                          —   □

PS C:\assingment1> objdump -l -d -r B-3.o

B-3.o:     file format pe-x86-64


Disassembly of section .text:

0000000000000000 <main>:
   0:   55                      push   %rbp
   1:   48 89 e5                mov    %rsp,%rbp
   4:   48 83 ec 30             sub    $0x30,%rsp
   8:   e8 00 00 00 00          callq  d <main+0xd>
                        9: R_X86_64_PC32        __main
   d:   c7 45 fc 04 00 00 00    movl   $0x4,-0x4(%rbp)
  14:   eb 13                   jmp    29 <main+0x29>
  16:   83 7d fc 03             cmpl   $0x3,-0x4(%rbp)
  1a:   7f 06                   jg     22 <main+0x22>
  1c:   83 45 f8 02             addl   $0x2,-0x8(%rbp)
  20:   eb 03                   jmp    25 <main+0x25>
  22:   d1 65 f8                shll   -0x8(%rbp)
  25:   83 45 fc 01             addl   $0x1,-0x4(%rbp)
  29:   83 7d fc 63             cmpl   $0x63,-0x4(%rbp)
  2d:   7e e7                   jle    16 <main+0x16>
  2f:   8b 55 f8                mov    -0x8(%rbp),%edx
  32:   8b 45 fc                mov    -0x4(%rbp),%eax
  35:   41 89 d0                mov    %edx,%r8d
  38:   89 c2                   mov    %eax,%edx
  3a:   48 8d 0d 00 00 00 00    lea    0x0(%rip),%rcx        # 41 <main+0x41>
                        3d: R_X86_64_PC32       .rdata
  41:   e8 00 00 00 00          callq  46 <main+0x46>
                        42: R_X86_64_PC32       printf
  46:   b8 00 00 00 00          mov    $0x0,%eax
  4b:   48 83 c4 30             add    $0x30,%rsp
  4f:   5d                      pop    %rbp
  50:   c3                      retq
  51:   90                      nop
  52:   90                      nop
  53:   90                      nop
  54:   90                      nop
  55:   90                      nop
  56:   90                      nop
  57:   90                      nop
  58:   90                      nop
  59:   90                      nop
  5a:   90                      nop
  5b:   90                      nop
  5c:   90                      nop
  5d:   90                      nop
  5e:   90                      nop
  5f:   90                      nop
```

B4 :

```
PS C:\assingment1> gcc -save-temps B-4.c
PS C:\assingment1> objdump -l -d -r B-4.o

B-4.o:      file format pe-x86-64


Disassembly of section .text:

0000000000000000 <main>:
   0:   55                      push   %rbp
   1:   48 89 e5                mov    %rsp,%rbp
   4:   48 83 ec 30             sub    $0x30,%rsp
   8:   e8 00 00 00 00          callq  d <main+0xd>
                        9: R_X86_64_PC32        __main
   d:   8b 55 fc                mov    -0x4(%rbp),%edx
  10:   8b 45 f8                mov    -0x8(%rbp),%eax
  13:   01 c2                   add    %eax,%edx
  15:   8b 45 f4                mov    -0xc(%rbp),%eax
  18:   8d 0c 02                lea    (%rdx,%rax,1),%ecx
  1b:   8b 55 f8                mov    -0x8(%rbp),%edx
  1e:   8b 45 fc                mov    -0x4(%rbp),%eax
  21:   01 d0                   add    %edx,%eax
  23:   0f af c1                imul   %ecx,%eax
  26:   89 45 f4                mov    %eax,-0xc(%rbp)
  29:   8b 45 f4                mov    -0xc(%rbp),%eax
  2c:   48 83 c4 30             add    $0x30,%rsp
  30:   5d                      pop    %rbp
  31:   c3                      retq
  32:   90                      nop
  33:   90                      nop
  34:   90                      nop
  35:   90                      nop
  36:   90                      nop
  37:   90                      nop
  38:   90                      nop
  39:   90                      nop
  3a:   90                      nop
  3b:   90                      nop
  3c:   90                      nop
  3d:   90                      nop
  3e:   90                      nop
  3f:   90                      nop
PS C:\assingment1>
```