**PROBLEM 1**

|  |  |
| --- | --- |
| long for\_2(int n)  {      if ((unsigned int) n<=1){          return 1;      }      int a;      long b = 1;      for (a=1;a<=n;a++){          b\*=a;      }      return b;  }  int main()  {      long a;      a = for\_2(5);      return 0;  } | \_Z2sui:  movl $1, %edx  movl $0, %eax  jmp .L2  .L3:  addl %edx, %eax  addl $1, %edx  .L2:  cmpl %edi, %edx  jle .L3  rep ret  main:  movl $5, %edi  call \_Z2sui  movl $0, %eax  ret |

**PROBLEM 2**

|  |  |
| --- | --- |
| long for\_2(int n){  if ((unsigned int) n<=1){          return 1;      }      int a;      long b = 1;      for (a=1;a<=n;a++){          b\*=a;      }      return b;  }  }  int main()  {  long a;  a = for\_2(5);  return 0;  } | \_\_Z5for\_2i:  cmpl $1, %edi  jbe .L5  movl $1, %edx  movl $1, %eax  jmp .L3  .L4:  movslq %edx, %rcx  imulq %rcx, %rax  addl $1, %edx  .L3:  cmpl %edi, %edx  jle .L4  rep ret  .L5:  movl $1, %eax  ret  main:  movl $5, %edi  call \_Z5for\_2i  movl $0, %eax  ret |

**PROBLEM 3**

|  |  |
| --- | --- |
| int s1 (int n){      // Your code here      int a;      int b = 0;      for (a=0;a<=n;a+=2){          b+=a;      }      return b;  }  int s2 (int n){    // Your code here    int a;    int b = 0;    for (a=1;a<=n;a+=2){        b+=a;    }    return b;  }  int main(){     int a = 0;     int b = 0;     int n;     a = s1(n);     b = s2(n);  } | \_Z2s1i:  movl $0, %eax  movl $0, %edx  jmp .L2  .L3:  addl %edx, %eax  addl $2, %edx  .L2:  cmpl %edi, %edx  jle .L3  rep ret  \_Z2s2i:  movl $0, %eax  movl $1, %edx  jmp .L5  .L6:  addl %edx, %eax  addl $2, %edx  .L5:  cmpl %edi, %edx  jle .L6  rep ret  main:  pushq %rbx  movl $0, %ebx  movl %ebx, %edi  call \_Z2s1i  movl %ebx, %edi  call \_Z2s2i  movl $0, %eax  popq %rbx  ret |